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1917/18

THE UNIVERSITY BULLETINS

SEVENTEENTH SERIES: NO. 4—PART 2

University of Pennsylvania

Founded 1740



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UNIVERSITY OF ILLINOIS
APR 29 1931

Graduate School

1917-1918

PHILADELPHIA:

Published by the University

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SPECIAL NOTICE.

Copies of the University Catalogue (containing detailed information concerning all the Schools) may be obtained ONLY upon application to the Secretary of the University, Mr. Edward Robins, Law School Building.

To any alumnus of the University, the Catalogue will be sent upon application on receipt of name, class and address.

The special announcement of the following divisions of the University will be sent upon application to the appropriate Dean:

THE COLLEGE; including,

THE SCHOOL OF ARTS.

THE SUMMER SCHOOL.

THE COLLEGE COURSE FOR TEACHERS.

THE TOWNE SCIENTIFIC SCHOOL.

THE WHARTON SCHOOL OF FINANCE AND COMMERCE.

THE GRADUATE SCHOOL.

THE SCHOOL OF EDUCATION.

THE LAW SCHOOL.

THE SCHOOL OF MEDICINE.

THE SCHOOL OF DENTISTRY.

THE SCHOOL OF VETERINARY MEDICINE.

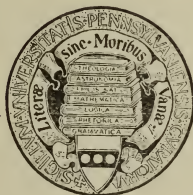
UNIVERSITY OF PENNSYLVANIA

FASCICULUS

OF THE

GRADUATE SCHOOL

1917-1918



Founded 1740

PHILADELPHIA:
Printed for the University
APRIL, 1917

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THE UNIVERSITY.

General Information.

LOCATION.

The buildings of the University of Pennsylvania, thirty-one in number, are situated in Philadelphia, on property covering an area of over fifty-nine acres. In addition to this land the University has recently acquired from the city an adjoining tract comprising fifty-five acres, more or less. The University may be reached from the various railroad stations as follows: From the West Philadelphia station of the Pennsylvania Railroad, on foot west on Woodland Avenue, a walk of less than ten minutes; from the Broad Street station of the same railroad by the *Angora* or *Darby* subway cars directly to the University; from the Philadelphia and Reading Terminal station, by the electric cars on Market Street west to Thirty-fourth Street, thence on foot south to Woodland Avenue, trip of about fifteen minutes; or from the Baltimore and Ohio Railroad station by a walk of one square south to Walnut Street, thence by car over the bridge west to Thirty-fourth Street, a ride of about five minutes.

APPLICATIONS FOR CATALOGUES, ETC.

Applications for copies of the annual University Catalogue (published in February) should be addressed to the Secretary of the University of Pennsylvania, Philadelphia, Pa.

The University also issues pamphlets relating to the College and the several Schools or to individual Departments and often containing information not found in the Catalogue. Inquirers interested in special branches of work only are advised to apply for these pamphlets, not for the Catalogue.

All letters of inquiry regarding the internal regulations and requirements in the College or each separate School of the University should be addressed to the Dean of that Department (see *Administrative Officers*, following) and *not* to the Secretary of the University.

THE GRADUATE DORMITORY.

Lodging for men students to the number of more than nine hundred is provided in the present dormitory system, which comprises an extended group of contiguous houses fronting upon three open courts. The Graduate House, which has been set aside for the exclusive use of students in the Graduate School, adjoins the new tower on the eastern side of the "Big Quad." In addition to the rooms of tenants, there is on the first floor a large reception room for general use.

The prices for single rooms in this house range from \$100 to \$150 per annum, and for double rooms from \$190 to \$200.

All rooms and halls are heated by steam and lighted by electricity. On each floor and on every staircase are lavatories, with hot and cold shower baths, etc. Almost all the double, and some of the single, rooms have open fireplaces. The University supplies for each student the following furniture: Bedstead, mattress, bureau, washstand, table, bookcase, chairs and toilet china.

Plans, prices and other details may be obtained upon application to the Bursar of the University, College Hall.

THE WOMEN'S DORMITORY.

The Women's Dormitory is located near the campus at 120 South Thirty-fourth Street. Rental rates of rooms for the College year (thirty-nine weeks) vary from \$75 to \$135. In addition to apartments for the residents, reception rooms for graduate students are provided. For information in regard to rooms application should be made to the Bursar.

OTHER ACCOMMODATIONS FOR STUDENTS.

Board and lodging for men and women students may be obtained in the immediate vicinity of the University. Upon application at the offices of the several Deans (see *Administrative Officers*, following), lists of approved boarding houses may be obtained.

HOUSTON HALL.

Houston Hall is the home of the Houston Club, to membership in which any member of the University is eligible. The fee for active membership in the club is \$3.00 per annum.

Its purposes are to provide for the students a place where all may meet socially on common ground, and to furnish every available

facility for healthy recreation and amusement in leisure hours. The equipment of the Hall includes a reading-room, with a large number of periodicals and newspapers; smoking-rooms, billiard and pool tables, tables for chess and checkers, a correspondence room, bowling alleys, shuffle boards, a bath-room; athletic trophy rooms; a large auditorium with grand organ; rooms for the University papers and other organizations; a dark room for the amateur photographers and many other rooms for general purposes.

The Christian Association, which has its headquarters in Houston Hall, is prepared to furnish prospective students, through its Secretary, full information with regard to the various undergraduate social activities, both secular and religious.

GRADUATE CLUBS.

A Graduate Club for men and a Graduate Club for women are organized and maintained by the students and hold frequent meetings during the year, both for social purposes and for the consideration of topics of interest to graduate students.

THE GYMNASIUM.

The facilities of the University Gymnasium are extended to men students. The Gymnasium is equipped with modern apparatus for various kinds of physical exercise, a large swimming pool, rowing-room, boxing, fencing and wrestling-rooms. Beneath the stands on Franklin Field, the athletic field of the University, there are squash courts and an indoor running track. The fee for the use of the Gymnasium is \$7.00 per annum, payable in two equal installments.

CALENDAR FOR 1917-18.

1917

- June 20, Wednesday Commencement, 11 A. M.
July 9, Monday Summer Session begins, 9 A. M.
Aug. 18, Saturday Summer Session ends, 6 P. M.
Oct. 2, Tuesday First Term begins, 8.30 A. M.
Oct. 4, Thursday Opening Exercises, 3.30 P. M.
Nov. 28, Wednesday Thanksgiving Recess begins, 6 P. M.
Dec. 3, Monday Thanksgiving Recess ends, 8.30 A. M.
Dec. 22, Saturday Christmas Recess begins, 6 P. M.

1918

- Jan. 3, Thursday Christmas Recess ends, 8.30 A. M.
Feb. 11, Monday Second Term begins, 8.30 A. M.
Feb. 22, Friday University Day. Recess.
Mar. 1, Friday Date fixed for receipt of fellowship
and scholarship applications.
Mar. 27, Wednesday Easter Recess begins, 6 P. M.
April 4, Thursday Easter Recess ends, 8.30 A. M.
April 15, Monday Last day for receipt of applications
for higher degrees.
June 19, Wednesday Commencement, 11 A. M.

UNIVERSITY OF PENNSYLVANIA.

CHRONOLOGICAL TABLE.

- 1740—"Charity School" founded.
1749—The "Academy" established, with which the Charity School was combined.
1753—Charter granted by Thomas and Richard Penn, incorporating "The Academy and Charitable School."
1755—"Confirmatory Charter" granted by Thomas and Richard Penn, incorporating "The College, Academy and Charitable School."
1765—School of Medicine founded.
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From September, 1777, to June, 1778, owing to the occupation of Philadelphia by British troops, recitations and lectures were suspended.

- 1779—Withdrawal of the chartered rights and privileges of The College by the State Assembly, and incorporation of the "University of the State of Pennsylvania."
1789—Restoration of its chartered rights and privileges to The College.
1790—Law School founded (re-established in 1850).
1791—Union of the University of the State of Pennsylvania with The College, under the title of the UNIVERSITY OF PENNSYLVANIA.
1874—University Hospital established.
1875—Towne Scientific School founded.
1877—Department of Music established.
1878—School of Dentistry founded.
1881—Wharton School of Finance and Commerce founded.
1882—Graduate School founded.
1884—Veterinary School founded.
1885—Veterinary Hospital established.
1885—Department of Physical Education established.
1889—Department of Archaeology established.
1892—Laboratory of Hygiene established.

- 1892—Wistar Institute of Anatomy and Biology established.
1892—Saturday Courses for Teachers established.
1896—Houston Club organized.
1896—Flower Astronomical Observatory opened.
1904—Summer School (College) established.
1906—College Courses for Teachers established.
1910—Henry Phipps Institute transferred to the University.
1912—Division of the College into three departments—The College,
the Towne Scientific School and the Wharton School.
1914—School of Education established.

ADMINISTRATIVE OFFICERS.

OF THE CORPORATION.

Provost—EDGAR F. SMITH, PH.D., SC.D., L.H.D., LL.D.

Office in the John Harrison Laboratory of Chemistry, Thirty-fourth and Spruce Streets.

Vice-Provost—JOSIAH H. PENNIMAN, PH.D., LL.D.

Office, 104 College Hall.

Secretary—EDWARD ROBINS, A.M.

Office, 4 Law School Building.

Treasurer—WILLIAM H. HUTT, JR.

Office, 400 Chestnut Street.

Recorder—GEORGE E. NITZSCHE, LL.B.

Office, Houston Hall.

Bursar—WILLIAM O. MILLER, A.B.

Office, 102 College Hall. Office hours, 9 A. M. to 5 P. M., daily.

The Bursar's office is open from 8.45 A. M. to 5 P. M. Saturdays, 8.45 A. M. to 1 P. M.

OF THE COLLEGE AND PROFESSIONAL FACULTIES.

Dean of the College Faculty—ARTHUR HOBSON QUINN, PH.D.

Office, 103 College Hall, Woodland Avenue. Office hours, 9 A. M. to 12 M., daily.

Dean of the Towne Scientific School Faculty—JOHN FRAZER, A.M., PH.D.

Office, Engineering Building. Office hours, 9 A. M. to 12 M., and 3 P. M. to 4 P. M., daily.

Dean of the Wharton School Faculty—WILLIAM MCCLELLAN, E.E., PH.D.

Office, Logan Hall, Thirty-sixth Street below Woodland Avenue. Office hours, 8.30 to 10.30 A. M.

Dean of the School of Education—FRANK P. GRAVES, PH.D., LITT.D., LL.D.

Office, 108 College Hall. Office hours, 11 A. M. to 12 M., daily, and 4 P. M. to 5 P. M., except Friday and Saturday.

Dean of the Graduate School Faculty—HERMAN V. AMES, A.M., PH.D.

Office, 105 College Hall, Woodland Avenue. Office hours, 9 A. M. to 12 M., daily. The office is open 9 A. M. to 5 P. M., daily, Saturdays, 9 A. M. to 1 P. M.

Dean of the Law Faculty—WM. E. MIKELL, B.S., LL.M.

Office in the Law School Building, Thirty-fourth and Chestnut Streets. Office hours, Wednesdays, Thursdays and Fridays, 12 to 1 P. M.; Mondays and Tuesdays, 12.15 to 1 P. M.

Dean of the Medical Faculty—WILLIAM PEPPER, A.B., M.D.

The Dean's Office (in the Medical Laboratories, Hamilton Walk) is open from 9 A. M. to 5 P. M.; Saturdays, 9 A. M. to 1 P. M.

Dean of the Dental Faculty—EDWARD C. KIRK, D.D.S., Sc.D., LL.D.

Office, Thomas W. Evans Dental Institute, Fortieth and Spruce Streets. Office hours, 9 A. M. to 1 P. M., daily.

Dean of the Faculty of Veterinary Medicine—LOUIS A. KLEIN, V.M.D.

Office, Veterinary Building, Thirty-ninth Street and Woodland Avenue. Office open daily from 9 A. M. to 5 P. M., except Saturday; on Saturday, 9 A. M. to 1 P. M.

OF THE DEPARTMENT OF PHYSICAL EDUCATION.

Director—R. TAIT MCKENZIE, A.B., M.D.

Office in the Gymnasium, Thirty-third and Spruce Streets. Office hours, 3 P. M. to 6 P. M., daily, except Saturdays.

Students' Physicians—The Trustees have appointed Drs. GEORGE WILSON, S. HAROLD BOYD and J. C. BIRDSALL to act as students' physicians, under the guidance of Dr. JOHN H. MUSSER, JR., the Physician-in-Chief of the Medical Dispensary of the University Hospital. A students' dispensary is conducted daily at the University Hospital.

Ophthalmologist—WILLIAM C. POSEY, A.B., M.D., 2049 Chestnut Street.

Office hours, from 8.30 A. M. to 1 P. M., daily. Telephone connection.

OF OTHER DEPARTMENTS.

Director of Admissions—GEORGE GAILEY CHAMBERS, PH.D.

(For the College, Towne Scientific School, Wharton School and School of Education.)

Office, Room 113, College Hall.

Assistant Directors—GEORGE WILLIAM MCCLELLAND, A.M., PH.D.,
FREDERIC W. BREIMEIER, A.M.

Librarian of the University—MORRIS JASTROW, JR., PH.D., LL.D.

Office in the Library, Thirty-fourth Street below Walnut.

Assistant Librarian—KATHARINE S. LEIPER.

The Library is open daily during term-time (except holidays), from 8.15 A. M. to 10 P. M.; Sundays, from 2 P. M. to 6 P. M.; during the summer vacation, daily (except Sundays and holidays), from 9 A. M. to 5 P. M.; during the session of the Summer School, daily (except holidays), from 8.30 A. M. to 10 P. M.; Sundays, 2 P. M. to 6 P. M.

Librarian of the Biddle Law Library—MRS. MARGARET C. KLINGELSMITH, LL.B., LL.M.

Office in the Law School Building, Thirty-fourth and Chestnut Streets. Office hours, 10 A. M. to 5 P. M., daily.

Director of the Summer School—OWEN L. SHINN, PH.D.

Office, College Hall.

Superintendent of the University Hospital—MARION E. SMITH.

The Hospital is on Spruce Street above Thirty-fourth. Communications concerning the Hospital and the admission of patients should be addressed to the Superintendent.

Director of the William Pepper Clinical Laboratory—HERBERT FOX, M.D.

Office in the Laboratory. Office hours, 2 P. M. to 3 P. M., daily.

The Laboratory is on Spruce Street below Thirty-sixth, adjoining the Hospital.

Director of the Wistar Institute—MILTON J. GREENMAN, PH.B., M.D., Sc.D.

Office in the Institute, Thirty-sixth Street and Woodland Avenue. Office hours, from 3 to 5 P. M., daily, except Saturdays.

Director of the John Harrison Laboratory of Chemistry—EDGAR F. SMITH, PH.D., Sc.D., L.H.D., LL.D., CHEM.D.

Office in the Laboratory, Thirty-fourth and Spruce Streets.

Director of the Laboratory of Hygiene—ALEXANDER C. ABBOTT,
M.D., DR. P.H., Sc.D.

Office in the Laboratory, Thirty-fourth Street below Walnut.

First Assistant in the Laboratory of Hygiene—DAVID HENDRICKS
BERGEY, A.M., M.D., DR. P.H.

Office in the Laboratory. Office hours, 9 A. M. to 12 M., and
2 P. M. to 5 P. M., daily.

Director of the Randal Morgan Laboratory of Physics—ARTHUR W.
GOODSPEED, PH.D.

Office in the Laboratory, Thirty-fourth Street below Walnut.

Director of the Psychological Laboratory and Clinic—LIGHTNER
WITMER, PH.D.

Office in the Laboratory, College Hall.

Director of the Light and Heat Station—SAMUEL B. LOCKE.

Engineer of Construction—WILLIAM R. JONES, B.S. in M.E., M.E.

Office in Engineering Building.

Director of the Zoölogical Laboratory—CLARENCE E. McCLUNG,
PH.G., A.M., PH.D.

The Laboratory is on Hamilton Walk.

Director of the Robert Hare Chemical Laboratory—JOHN MARSHALL,
M.D., NAT. Sc.D., LL.D.

Director of the Botanic Garden—JOHN M. MACFARLANE, D.Sc.

The Garden is adjacent to the Botanical Laboratory, on Hamilton Walk, and is open daily from 7 A. M. to sunset. The greenhouses are open from 8 A. M. to 5 P. M.

Director of the Flower Astronomical Observatory—ERIC DOOLITTLE,
C.E.

The Observatory is situated at Cedar Lane Station, one mile beyond the Sixty-ninth Street Terminal Station of the Market Street elevated electric road.

Purchasing Agent—BOULTON EARNSHAW.

Office, Room 320, Zoölogical Laboratory. Office hours, 9 A. M. to 4.30 P. M.

HENRY PHIPPS INSTITUTE.

Executive Director—CHARLES J. HATFIELD, M.D.

Director of the Clinical and Sociological Departments—H. R. M.
LANDIS, M.D.

Director of the Laboratory—PAUL A. LEWIS, M.D.

UNIVERSITY MUSEUM.

The Museum contains the archaeological and ethnological collections of the University, and is situated on Spruce Street below Thirty-fourth, opposite Franklin Field. The collections are open to visitors daily from 10 A. M. to 5 P. M.; on Sundays, from 2 P. M. to 6 P. M. *Director*, GEORGE B. GORDON, Sc.D.

GRADUATE SCHOOL.

FACULTY.

EDGAR F. SMITH, PH.D., CHEM.D., SC.D., L.H.D., LL.D., PROVOST, and BLANCHARD Professor of Chemistry.

JOSIAH H. PENNIMAN, PH.D., LL.D., VICE-PROVOST, and Professor of English Literature.

HERMAN V. AMES, A.M., PH.D., Dean of the Graduate School and Professor of American Constitutional History.

MORTON W. EASTON, PH.D., Emeritus Professor of English and Comparative Philology.

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EDWARD TYSON REICHERT, M.D., SC.D., Professor of Physiology.

MORRIS JASTROW, JR., A.M., PH.D., LL.D., Professor of Semitic Languages.

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FELIX E. SCHELLING, A.M., PH.D., LITT.D., LL.D., JOHN WELSH CENTENNIAL Professor of History and English Literature.

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ARTHUR W. GOODSPEED, PH.D., Professor of Physics.

EDWIN S. CRAWLEY, PH.D., THOMAS A. SCOTT Professor of Mathematics.

GEORGE E. FISHER, A.M., PH.D., Professor of Mathematics.

EDWARD P. CHEYNEY, A.M., LL.D., Professor of European History.

HUGO A. RENNERT, PH.D., LL.D., Professor of Romanic Languages and Literatures.

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AMOS P. BROWN, E.M., PH.D., Professor of Mineralogy and Geology.

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ALEXANDER CREVER ABBOTT, M.D., DR.P.H., ScD., PEPPER Professor of Hygiene and Bacteriology.

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DANIEL B. SHUMWAY, PH.D.,* Professor of German Philology.

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CLARENCE G. CHILD, A.M., PH.D., L.H.D., Professor of the English Language.

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JOHN C. ROLFE, A.M., PH.D., Professor of the Latin Language and Literature.

ALLEN JOHN SMITH, A.M., M.D., Sc.D., LL.D., Professor of Pathology and of Comparative Pathology.

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WILLIAM E. LINGELBACH, PH.D., Professor of Modern European History.

WALTON B. McDANIEL, A.M., PH.D., Professor of Latin.

*PAUL PHILIPPE CRET, Arch. Diplômé du Gouvernement Français, O.A., Sc.D., Professor of Design.

HORACE C. RICHARDS, PH.D., Professor of Mathematical Physics.

GEORGE H. HALLETT, A.M., PH.D., Professor of Mathematics.

ARTHUR H. QUINN, PH.D., Professor of English.

*Absent on leave.

JAMES THOMAS YOUNG, PH.D., Professor of Public Administration.

ERIC DOOLITTLE, C.E., FLOWER Professor of Astronomy.

CORNELIUS WEYGANDT, PH.D., Professor of English Literature.

EDWARD S. MEAD, PH.D., Professor of Finance.

GEORGE WALTER DAWSON, Professor of Drawing.

CARL KELSEY, PH.D., Professor of Sociology.

ARTHUR C. HOWLAND, PH.D., Professor of Medieval History.

OWEN L. SHINN, PH.D., Professor of Applied Chemistry.

WALTER T. TAGGART, PH.D., Professor of Organic Chemistry.

JOHN W. HARSHBERGER, PH.D., Professor of Botany.

FREDERICK EHRENFELD, PH.D., Assistant Professor of Geology and Mineralogy.

ALBERT DUNCAN YOCUM, PH.D., Professor of Educational Research and Practice.

J. RUSSELL SMITH, PH.D., Professor of Industry.

J. PERCY MOORE, PH.D., Professor of Zoölogy.

**PHILIP P. CALVERT, PH.D., Professor of Zoölogy.

EDWIN B. TWITMYER, M.S., PH.D., Professor of Psychology.

FREDERICK H. SAFFORD, A.M., PH.D., Assistant Professor of Mathematics.

SOLOMON S. HUEBNER, M.S., PH.D., Professor of Insurance and Commerce.

WARD W. PIERSON, PH.D., Professor of Business Law.

THOMAS CONWAY, JR., PH.D., Professor of Finance.

ROLAND G. KENT, A.M., PH.D., Professor of Comparative Philology.

ALFRED HERMANN GUMAER, B.S. in Arch, Assistant Professor of Architectural History.

JAMES P. LICHTENBERGER, A.M., PH.D., Professor of Sociology.

HAROLD C. BARKER, A.M., PH.D., Assistant Professor of Physics.

**Absent on leave, second term, 1917-18.

THOMAS P. McCUTCHEON, JR., PH.D., Assistant Professor of Chemistry.

*EDWARD Z. DAVIS, PH.D., Assistant Professor of Germanics.

LOUIS W. FLACCUS, A.M., PH.D., Professor of Philosophy.

MAURICE J. BABB, PH.D., Assistant Professor of Mathematics.

JOHN J. SULLIVAN, A.M., LL.B., LL.D., Professor of Law.

GEORGE GAILEY CHAMBERS, PH.D., Assistant Professor of Mathematics.

OLIVER E. GLENN, A.M., PH.D., Professor of Mathematics.

*FREDERICK M. URBAN, PH.D., Assistant Professor of Psychology.

REV. JAMES ALAN MONTGOMERY, PH.D., S.T.D., Professor of Hebrew and Aramaic.

HENRY LAMAR CROSBY, A.M., PH.D., Assistant Professor of Greek.

ALONZO E. TAYLOR, M.D., BENJAMIN RUSH Professor of Physiological Chemistry.

RICHARD M. PEARCE, JR., M.D., D.Sc., Professor of Research Medicine.

ALFRED NEWTON RICHARDS, A.M., PH.D., Professor of Pharmacology.

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GEORGE DEPUE HADZSITS, A.M., PH.D., Assistant Professor of Latin.

BRADLEY MOORE DAVIS, A.M., PH.D., Professor of Botany.

FRANK GOULDSMITH SPECK, A.M., PH.D., Assistant Professor of Anthropology.

LEWIS PIAGET SHANKS, A.M., PH.D., Assistant Professor of French.

CLARENCE ERWIN McCLUNG, PH.G., A.M., PH.D., Professor of Zoölogy.

GROVER GERHARDT HUEBNER, A.M., PH.D., Assistant Professor of Commerce and Transportation.

FRANKLIN EDGERTON, PH.D., Assistant Professor of Sanskrit.

JAMES CURTIS BALLAGH, PH.D., LL.D., Professor of Political Science.

HARLAN UPDEGRAFF, PH.D., Professor of Educational Administration.

FRANK PIERREPONT GRAVES, A.M., PH.D., LITT.D., LL.D., Professor of the History of Education.

ENGLEHARDT AUGUST ECKHARDT, PH. D., Assistant Professor of Physics.

HIRAM STANHOPE LUKENS, PH.D., Assistant Professor of Chemistry.

DICRAN HADJY KABAKJIAN, M.S., PH.D., Assistant Professor of Physics.

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CLYDE L. KING, A.M., PH.D., Assistant Professor of Political Science.

FRANCIS NORTON MAXFIELD, PH.D., Assistant Professor of Psychology.

MERKEL HENRY JACOBS, PH.D., Assistant Professor of Zoölogy.

SAMUEL GOODWIN BARTON, PH.D., Assistant Professor of Astronomy.

ERNEST MINOR PATTERSON, A.M., PH.D., Assistant Professor of Economics.

HERBERT HUNTER VAUGHAN, PH.D., Assistant Professor of Romance Languages and Literatures.

GEORGE BYRON ROORBACH, A.M., Assistant Professor of Geography.

ALBERT JOSEPH CARNOY, PH.D., LITT.D., Research Professor of Greek.

ALBERT EDWARD McKINLEY, PH.D., Professor of History.

AMBROSE LEO SUHRIE, A.M., PH.D., Assistant Professor of Education.

ARTHUR JULIUS JONES, PH.D., Assistant Professor of Education and Director of the Appointment Bureau.

HARRY BROWN VAN DEVENTER, A.M., PH.D., Assistant Professor of Latin.

JOSEPH SERONDE, A.M., PH.D., Assistant Professor of French.

W. MAX MÜLLER, PH.D., Assistant Professor of Egyptology.

HENRY BRADFORD SMITH, PH.D., Assistant Professor of Philosophy.

ISAAC HUSIK, A.M., PH.D., Assistant Professor of Philosophy.

ROBERT LEE MOORE, A.M., PH.D., Assistant Professor of Mathematics.

INSTRUCTORS.

EDWIN MILLER FOGEL, PH.D., Germanics.

CHARLES TRAVIS, B.S. in C.E., PH.D., Mineralogy.

WALTER MARTINUS BOEHM, PH.D., Physics.

HERBERT GUY KRIBS, B.D., PH.D., Zoölogy.

AMANDUS JOHNSON, A.M., PH.D., Germanics.

DAVID WALTER STECKBECK, A.M., PH.D., Botany.

FREDERICK WAHN BEAL, A.M., PH.D., Mathematics.

OTTO STUHLMANN, JR., A.M., PH.D., Physics.

HERBERT SPENCER HARNED, A.B., B.S. in Chem., PH.D., Physical Chemistry.

EDWARD CHIERA, A.M., PH.D., Assyriology.

LEICESTER BODINE HOLLAND, B.S., B.S. in Arch., Arts.

DAVID MITCHELL, A.M., PH.D., Psychology.

ROBERT THOMAS AITKEN, A.B., Anthropology.

ERNST CHRISTIAN PAUL METZENTHIN, A.M., PH.D., Germanics.

DAVID H. WENRICH, A.M., PH.D., Zoölogy.

JOHN JAMES VAN NOSTRAND, JR., A.M., PH.D., History.

FRANK HORACE REITER, A.M., PH.D., Psychology.

FRANK ASBURY WATERHOUSE, A.M., Romanics.

CHARLES HOLLOWAY CRENNAN, A.M., PH.D., Commerce.

MIGUEL ROMERA NAVARRO, A.B., M.L., Spanish.

JOSEPH HENRY WILLITS, PH.D., Economics.

EDWARD HOCH HEFFNER, A.M., PH.D., Latin.

KRIKORIS GARABED BOHJELIAN, A.B., A.M., PH.D., Mathematical Physics.

LECTURERS AND RESEARCH FELLOWS.*

HEINRICH FRIEDRICH LUTZ, B.D., PH.D., Semitics.

WILLIAM NORMAN BROWN, A.B., PH.D., Sanskrit.

PHINEAS WESTCOTT WHITING, A.B., M.S., PH.D., Zoölogy.

EXECUTIVE COMMITTEE.**

PROFESSOR AMES, *Dean, Chairman, ex-officio*; PROFESSOR PENNIMAN, *Vice-Provost, ex-officio*; PROFESSOR CROSBY, PROFESSOR JASTROW, PROFESSOR LEARNED, PROFESSOR LICHTENBERGER, PROFESSOR McCUTCHEON.

The Graduate School offers advanced instruction in the various branches of Literature and Science. The instruction is intended primarily for persons who have profited by the advantages of a full college course, and who are desirous of continuing their studies upon lines more strictly defined and specialized. Others, however, may be admitted to study in the Department under the provisions hereinafter specified.

The session of 1916-17 opened on Tuesday, October 3, 1916; that of 1917-18 will open Tuesday, October 2, 1917. All persons intending to pursue work are advised that they should register during the opening week. Public opening exercises will be held on Thursday, October 4, 1917.

ARRANGEMENT OF COURSES.

The courses of instruction offered in the Graduate School are arranged under the twenty-five following groups:

- I. Anthropology.
- II. Semitic Languages and Archeology.
- III. Indo-European Philology and Sanskrit.
- IV. Greek.
- V. Latin.

*Authorized to give instruction under the Faculty of the Graduate School, 1917-18.

**For 1916-17.

- VI. English.
- VII. Germanic Languages.
- VIII. Romanic Languages.
- IX. Fine Arts.
- X. History.
- XI. History of Religions.
- XII. Political Science.
- XIII. Economics.
- XIV. Sociology.
- XV. Philosophy and Ethics.
- XVI. Education.
- XVII. Psychology.
- XVIII. Mathematics.
- XIX. Astronomy.
- XX. Physics.
- XXI. Chemistry.
- XXII. Geology and Mineralogy.
- XXIII. Botany.
- XXIV. Zoölogy.
- XXV. Medical Sciences.

Members of the faculty authorized to give instruction within a group constitute the "Group Committee." The several Group Committees have charge of the arrangement of courses, and the oversight of students taking their principal subject within the groups.

The instruction given within a group is classified under the headings, "lecture courses," "seminary courses," and "laboratory courses."

Courses that are prefixed by an asterisk (*) are primarily intended for graduate students, but may be open to undergraduate students who secure the permission of the instructors in charge. Courses that are prefixed by two asterisks (**) are primarily intended for undergraduates and half credit only will be given to graduate students taking these courses, except when the instructors shall certify that additional collateral work has been required and that certain work and examinations of such a character have been given as to insure that the courses shall be of full graduate standing. In such courses, full credit will be given. All other courses are intended for graduate students only.

In stating the minimum requirements for residence and degrees a "standard" course is used as a unit: this is a lecture course of one

hour a week for one academic year. The lecture courses as actually given may be either multiples or fractional parts of this standard. The credit value of seminary and laboratory courses in terms of the standard is variable, and is determined in each case by the Group Committee.

RECORD BOOK.

Each student is provided with a record book containing a record of his courses. When his work is completed he must submit this book to the professor for his signature, and at the end of each year leave it in the Dean's office for official record and the Dean's countersignature. No course is accounted complete until it has thus been officially recorded. On leaving the University, the student will retain the book as evidence of the scope and character of his work.

ADMISSION.*

Students desiring to enter the Graduate School must present themselves in person to the Dean. Prompt registration at the opening of the term is necessary to obtain full credit in course. Persons failing to register within the first three weeks can only be admitted to courses with the special permission of the Dean and the Instructors concerned. A special fee is charged for late registration. (See page 30.)

Any person holding a baccalaureate degree in Arts, Letters, Philosophy, or in Pure or Applied Science, granted by the University of Pennsylvania, or by any college or university whose degrees are recognized by this University, will be admitted as a regular student by the Dean, provided he be found prepared to undertake the graduate work selected. Degrees in Law, Music, Theology, Medicine, Dentistry, Veterinary Medicine, or Pharmacy, are not included. *Admission to the Graduate School does not necessarily imply candidacy for a degree, but does imply that the student possesses the ability to pursue with profit the work he undertakes.*

Students already registered as candidates for a degree in other departments of the University are allowed to pursue courses in the Graduate School, and regular students of the Graduate School are allowed to pursue courses in other departments, upon receiving the consent in writing of the Deans of the departments concerned.

*Full information touching the regulations governing the payment of fees and deposits will be found on pages 30 and 31.

After admission, each student will be furnished with a matriculation card; no student who cannot show his matriculation card will be allowed to take any course. Matriculation cards must be renewed at the beginning of each year. For such renewal, personal application must be made to the Dean.

Upon application to the Dean, a person who does not hold a satisfactory baccalaureate degree, but who is qualified to pursue a course or courses with profit, may be admitted as an "auditor" to any course, subject to the consent of the instructor in charge of the course. Auditors will not be permitted to become candidates for a higher degree.

VACCINATION REQUIREMENT.

In order to comply with the law of the State and the regulations of the Board of Health each student must present a physician's certificate of successful vaccination before being admitted to the University.

CANDIDACY.

Regular students only are qualified to become candidates for degrees. A student who desires to become a candidate for the Master's degree, should apply to the Dean in writing for admission to candidacy, naming his major subject. This application will be referred to the Group Committee of his major subject for its approval. Final action will then be taken by the Executive Committee. (See page 22.)

A student who is entering upon graduate work for the first time, and who desires to become a candidate for either the Master's or the Doctor's degree, should not apply for candidacy until he has become known to his instructors.

The application for admission to candidacy for the Doctor's degree should indicate the major and two minor subjects. It will be referred to the Group Committees in charge of these subjects for their approval. Final action will then be taken by the Executive Committee.

Prior to admission to candidacy for the Doctor's degree, the applicant must satisfy the requirement of a reading knowledge of French and German at sight, at least one year before he presents himself for the final examination for the degree.

A student intending to present himself for a degree in June must formally apply for admission to candidacy not later than the preceding April 15th.

RESIDENCE.

All candidates for higher degrees are required to spend at least one year in residence at this University. To be regarded as in residence at this University, a student must complete within one academic year not less than six standard courses or their equivalent, except as hereinafter provided for the Master's degree.

Work done at other universities may be accepted by the several Group Committees in lieu of a part of the work required for a degree; but no work which has already been counted toward a bachelor's degree, whether done at this institution or at any other, will be counted toward a Master's or Doctor's degree.

Leave of absence is granted by the Executive Committee under the following circumstances only:

(a) To a student who has completed all resident work required of him by the Group Committees for the Doctor's degree and who desires to prepare the thesis *in absentia* under conditions satisfactory to the Committee in charge of his major work.

(b) To a student who, having had at least one year of work in the Graduate School, is working in residence at another university, with the intention of returning to this University to take his degree.

(c) For a term, or part of a term, to a student presenting an application explaining the reasons for his proposed absence and affirming his intention to resume work the following term.

DEGREES.

The degrees conferred in the Graduate School are Master of Arts (A.M.), Master of Science (M.S.), and Doctor of Philosophy (Ph.D.). (For regulations in Summer School, see page 38.)

All recommendations for the higher degree must originate with the Group Committees under whose supervision the candidate has been pursuing his work. *No student can acquire a right to such recommendation merely by attending lectures, passing examinations, or by formal compliance with prescribed conditions.* The requirements hereinafter specified must therefore be regarded as *minimum requirements only*, the right remaining with any Group Committee to refuse to admit a student to examination for a higher degree.

THE MASTER'S DEGREE.

The work for the Master's degree must include one year in residence, as defined above, except that in case of continuous work at this University the minimum of twelve standard courses may be distributed through a term of three consecutive years.

If the candidate's work as an undergraduate and graduate student amounts to less than that prescribed by the College of the University of Pennsylvania for the baccalaureate degree, he shall be required to complete in addition to the above prescribed twelve standard courses or more, as many additional standard courses as represent the difference between the work which he has done and that required for the said baccalaureate degree. The Master's degree will not be conferred until one year has elapsed after the completion of the work for the baccalaureate degree.

A student who desires to become a candidate for the Master's degree is required to select a major subject. Six standard courses of the work which he may offer towards this degree must be taken in some single group and his entire work shall be under the supervision of the Committee in charge of his major subject.

Each candidate for the Master's degree is required to complete either a seminar course, a laboratory course or to prepare a thesis in his major subject, as the Group Committee shall direct. This regulation is intended to secure on the part of the student acquaintance with the methods of research.

If a thesis is required, two typewritten copies of the same (original and carbon), bound in boards, must be handed into the office of the Dean before the candidate is recommended to the Trustees for the degree.

He will be required to complete not less than twelve standard courses, or their equivalent, to the satisfaction of the Committees offering them. *The completion of the minimum requirement of twelve courses confers no right upon the student to be admitted to examination.* A general examination by the Group Committee in the major subject is required in addition to the other examinations. This examination may be written or oral, or both. *It shall not be held before the student has been accepted as a candidate for the degree.* (See page 25.) If he passes his examination he will be presented by the Dean to the Faculty as a candidate for the Master's degree. The Faculty will inquire into his credentials, and, if these are found satisfactory, will recommend him to the Corporation for the degree.

THE DOCTOR'S DEGREE.

The degree of Doctor of Philosophy is conferred solely, in recognition of marked ability and high attainments in some definite branch of learning.

The degree will in no case be conferred before the completion of three years of graduate work of approved character, one year of which, in accordance with the regulations concerning residence (see page 26), must be pursued at this University. A student of ability will usually be able to attain his degree in three years, but one who cannot devote his undivided attention to the work will require a longer period.

The candidate for the Doctor's degree must, upon entering the Graduate School, elect the group within which he intends to do the greater part of his work, and will then pass under the jurisdiction of the Committee in charge of that group. He must designate, with the consent of the Committee, three branches of learning in which he desires to become proficient. One of these, known as his "major," or principal subject, must lie within the group, although the Group Committee may direct him to courses given in other groups, and may allow them to be accounted part of the major work. The other two are termed his "minor," or subordinate subjects. It is recommended that at least one minor be taken outside the group in which the major lies, but in every case the minor subjects shall be so related to the major as to conduce to some approved end. The work done for the completion of each minor subject usually comprises not less than six standard courses or their equivalent.

Every candidate for the Doctor's degree must possess a good reading knowledge of those languages which are adjudged by the Committee in charge of the major to be essential to the prosecution of his major work, *in addition to the ability to read French and German at sight as required by the rules. The student's ability to read French and German at sight will be determined in each case by a representative of these groups respectively under the direction and control of the Executive Committee.*

The candidate for the Doctor's degree must present himself for written examinations conducted by the group committees concerned. *No such examination shall be held before the student has been accepted as a candidate for the degree* (see page 25). This requirement having been satisfied, examination in a minor may be held at any time after the completion of the second year of graduate work,

if approved by the Group Committee in charge of that minor. But the examination in the entire subject of each minor must be taken at one time. The examinations in the major will not be held until the candidate has completed all the resident and lecture work required by the rules of the Graduate School and by the Group Committee in charge of the major; and no candidate will be admitted to these examinations who has not had one year of resident work in this University. But it is not required that the thesis be completed before the candidate is admitted to the final examinations in the major.

The completion of three years of work confers no right upon the student to be admitted to examination. His acceptance depends solely upon his natural abilities and stage of scholarly advancement.

He must also present a thesis upon some topic in the line of his major subject, showing high attainment and power of independent research. A report upon the acceptance of the thesis shall be submitted to the Dean by the Group Committee on or before May 25th.

The thesis, if accepted, must be printed, and 150 complete copies (250 copies in Zoölogy) must be delivered to the Dean before the candidate is recommended to the Board of Trustees for the degree. Detailed information in regard to the *format* and other conditions governing printing should be obtained from the Dean. The proof sheets of the title page and cover should be submitted to the Dean for approval before final printing.

On presentation of satisfactory evidence that the thesis has been accepted for publication by a reputable scientific journal, or in the proceedings of a learned society, and that publication has been assured within a period of two years, and a satisfactory guarantee presented that the required number of reprints of the same, with the special title page, will be delivered to the Dean's office, on the approval of the Group Committee, the Dean may suspend the requirements of printing in advance.

After his examinations have been passed, and the required number of printed copies of his thesis has been delivered to the Dean, the candidate will be presented to the Faculty by a representative of the Group Committee in charge of his major work. The presenter will make a statement of the academic record of the candidate, and of the scope and value of his thesis, and will recommend him to the Faculty on behalf of the Group Committee

in question for the Doctor's degree. The Dean will certify that the candidate has complied with all the formal rules of the Faculty governing such cases. Any member of the Faculty will then be at liberty to ask of the candidate or of the presenter any questions he may desire. Upon this evidence the Faculty will then decide by vote whether the candidate shall or shall not be recommended to the Corporation for the degree.

FEEES AND DEPOSITS.

MATRICULATION FEE.—A matriculation fee of \$5.00 is required from every new student entering the University.

TUITION FEES.—The fee for a "standard course" (see page 23) is \$12.50 for the year. The fee for a course may be computed by multiplying this amount by the number of hours indicated, or by the number of "standard courses" it represents in cases where this number is specially designated.

LABORATORY FEES.—In addition to the tuition fee, a laboratory fee of \$2.50 an hour a week per annum is made for each laboratory hour given in a course in the six laboratories of Physics, Geology and Mineralogy, Botany, Zoölogy, Psychology and Medical Science. The fee in the Chemical Laboratory is \$5.00 per hour. But the laboratory fee for work taken in any one of the seven laboratories in any one year may not exceed a maximum charge of \$20.00.

The total amount of tuition and laboratory fees paid by any student shall not exceed \$150.00.

Bills for tuition and laboratory fees are payable semi-annually in advance, at the beginning of each term.

LATE REGISTRATION FEE.—Beginning in September, 1917, students who fail to register, or to complete registration by the satisfaction of all term obligations at the Bursar's Office, within three weeks after the opening day of either term of the University, shall be required to pay an additional fee of Five Dollars (\$5.00) for late registration. The above mentioned three weeks is to be reckoned from the official opening of the University and not from that of the Graduate School. The late registration fee will apply, in the year 1917-18, after October 19, 1917, and March 4, 1918, respectively.

For regulations in regard to withdrawals and allowances consult Part V of the Catalogue.

All Fellows and Scholars are exempt from the payment of tuition fees, but must pay matriculation, laboratory and graduation fees,

and must make the usual deposits. Fellows for Research and Instructors in the University are exempt from the payment of tuition and laboratory fees.

DEPOSITS.—All students must make a deposit with the Bursar, when matriculating, to cover breakage and all charges not otherwise provided for. The minimum deposit is \$5.00 and is required when no laboratory work is taken. For the laboratories of Chemistry and Physics the deposit is \$20.00. For the laboratories of Geology and Mineralogy, Botany, Zoölogy, Psychology and Medical Science, the deposit is \$10.00. If courses are taken in two or more laboratories, the maximum deposit will be \$20.00. Should the charges against any student be found in the course of the year to exceed one-half the amount of this deposit, he must make with the Bursar a second deposit sufficient to restore the deposit to its original amount. After deducting charges, the balance remaining will be returned upon graduation or withdrawal from the University. *Fellows for Research and Instructors in the University are not required to make deposits.*

THE GRADUATION FEE is twenty-five dollars (\$25.00).

LIBRARY PRIVILEGE.

All students registered have the privilege of using the library during the University year for which they are enrolled. Former students may obtain the privilege on the approval of the Librarian by the annual payment of three dollars.

FELLOWSHIPS AND SCHOLARSHIPS.

This University recognizes three general classes of Fellowships and Scholarships:

1. Fellowships for Research.
2. Fellowships.
3. Scholarships.

These include the Fellowships for Research, Fellowships and Scholarships on the GEORGE LEIB HARRISON Foundation; Fellowships on the HECTOR TYNDALE, the JOHN FRIES FRAZER, the JOSEPH M. BENNETT, the FRANCES SERGEANT PEPPER, and the MRS. BLOOMFIELD MOORE Foundations; the ROBERT ROBINSON PORTER and ROBERT M. GIRVIN Fellowships in Research Medicine; and University Fellowships for Research, Fellowships and Scholarships especially created, or permanently established, by the Corporation, the FRANCES E. BENNETT Scholarship, and two Traveling Scholarships.

GENERAL PROVISIONS.

Eligibility.—Men only are eligible to all Fellowships and Scholarships on the Harrison, Tyndale, and Frazer Foundations. Women only are eligible to the Fellowships upon the Bennett, Pepper, and Moore Foundations and to the Scholarship on the Frances E. Bennett Memorial Foundation. Both men and women are eligible to all University Fellowships and Scholarships, and to all Fellowships and Scholarships established for a limited period of time, unless the contrary be specified by that act of the Trustees which created the Fellowship or Scholarship in question.

Appointment.—All appointments are made by the Board of Trustees. Under ordinary conditions the Board acts solely upon the recommendation of the Executive Committee of the Graduate School. Applications for Fellowships and Scholarships for a given academic year are considered on and after March 1 of the year preceding, those received after March 1 being given consideration if any vacancies still remain. Applications should be addressed to the Dean of the Graduate School. Notification of the assignment of Fellowships and Scholarships will be sent out about April 1.

THE GEORGE LEIB HARRISON FOUNDATION.

Through the generosity of CHARLES C. HARRISON, LL.D., Provost of the University, 1894-1910, a permanent fund of Five Hundred Thousand Dollars was presented to the University in 1895. This fund is known as the GEORGE LEIB HARRISON Foundation. The income, by the terms of the Foundation, is applied to the establishment of Fellowships and Scholarships to the enrichment of the Library, to the support of courses of lectures by men of scientific eminence and to such other purposes as may promote the cause of advanced scientific study and research.

Under the provisions of this Foundation, there have been instituted in the Graduate School eight Scholarships, nineteen Fellowships, five Fellowships for Research.

FELLOWSHIPS FOR RESEARCH.

Upon the George Leib Harrison Foundation.

Five Fellowships-at-large for Research have been established.

The title subjects of the five Fellowships-at-large for Research are determined by the Corporation each year, upon the recommendation of the Executive Committee.

The candidate must hold a Ph.D. degree granted under conditions satisfactory to the Executive Committee of the Graduate School, and must submit plans for the prosecution of a line of research acceptable to that Committee. A detailed statement of such plans of research work should accompany the application for appointment to these Fellowships. During his tenure of the Fellowship, the Fellow will be required to devote his entire time to his work. He may, further, give instruction in the Graduate School or in the College of this University, provided such instruction does not exceed four hours a week during any one year.

No individual can hold a Harrison Fellowship for Research for more than three academic years.

The holder of a Fellowship for Research upon the GEORGE LEIB HARRISON Foundation receives a stipend of \$800 per annum. He is allowed unrestricted use of all the facilities of the Graduate School, and of the Library, without payment of the usual fees, and without making the usual deposits. Men only are eligible.

University Fellowships for Research.

The Corporation will, from time to time, upon the recommendation of the Executive Committee create additional Fellowships for Research. The applicant for such a Fellowship will be required to submit plans for the prosecution of a definite and practicable line of research. He will be granted the unrestricted use of the facilities afforded by the Graduate School, and of the Library, without the payment of tuition or laboratory fees, and without making a deposit. As a rule he will not receive a stipend.

The University Fellowships for Research created for the current year will be found enumerated in the list of Fellows and Scholars.

Fellowships for Research in Medicine.

Two Fellowships in Research Medicine are open to Graduate Students. The ROBERT ROBINSON PORTER Fellowship, established in 1912, and the ROBERT M. GIRVIN Fellowship, established in 1913, for the purpose of offering an opportunity to individuals who desire to devote a year or more to investigation in the Medical Sciences. Preference in appointment will be given to persons holding the degree of Doctor of Medicine, but the Fellowships are open to anyone whose training has been such as to ensure satisfactory research work in any one of the sciences allied to medicine. Thus the Fel-

lowships may be held by anyone eligible for the degree of Ph.D., provided the major work is done in the Department of Research Medicine. The holder of the ROBERT ROBINSON PORTER Fellowship receives a stipend of \$600 per annum, the holder of the ROBERT M. GIRVIN Fellowship receives a stipend of \$650 per annum, and both the appointees are exempt from tuition fees. These Fellowships carry no teaching duties. The appointments date from July 1st of each year, and the awards are made by the Professor of Research Medicine, subject to approval by the Board of Trustees. Applications for these Fellowships should be addressed to Dr. R. M. PEARCE, Department of Research Medicine, University of Pennsylvania, Philadelphia.

FELLOWSHIPS.

Upon the George Leib Harrison Foundation.

Nineteen Fellowships have been created upon the GEORGE LEIB HARRISON Foundation. The title subjects are determined from year to year by the Board of Trustees upon the recommendation of the Executive Committee. The candidate for such a Fellowship is required to hold a baccalaureate degree, and to have had one year of graduate work, both of which must be satisfactory to the Executive Committee. *He must possess a sight reading knowledge of French and German.*

During the tenure of his Fellowship the Fellow must devote his undivided time to the prosecution of his studies. No teaching or other outside work is permitted.

A stipend of \$500 per annum is attached to each of these Fellowships. Holders are exempt from the payment of tuition fees, but are required to pay laboratory and graduation fees.

No individual can hold a Harrison Fellowship for more than two years. Men only are eligible.

The Harrison Fellowship Funds.

To each one of the nineteen Fellowships upon the GEORGE LEIB HARRISON Foundation is attached the additional sum of \$100 per annum. This sum is expended upon the equipment of the Graduate School, with primary reference to the facilitation of the work of the Fellow. The manner in which each fund is to be expended is determined by the Provost, after consultation with the Dean and with the representatives of the Department in which the Fellow is to work.

Upon the Hector Tyndale Foundation: In Physics.

This Fellowship was endowed in 1885 by Professor John Tyndall. The candidate is required to hold a baccalaureate degree, and must intend to pursue advanced studies in Physics. The holder of the Fellowship may, with the sanction of the Faculty, pursue his studies at any university here or abroad. He receives a stipend of \$500 per annum. He is exempt from the payment of tuition fees, but is required to pay laboratory and graduation fees.

No individual can hold this Fellowship for more than three years. Men only are eligible.

Upon the John Frazer Foundation: In Physics.

This Fellowship has been established in memory of John Fries Frazer, Professor of Natural Philosophy and Chemistry in this University, 1844-72, by his daughter, Mrs. Thomas K. Conrad, and others of his kinsfolk. The holder of this Fellowship receives a stipend of \$500 per annum. The conditions of appointment and of tenure are the same as those of the Harrison Fellowships.

FELLOWSHIPS FOR WOMEN.

Upon the Joseph M. Bennett Foundation.

The late Colonel Joseph M. Bennett endowed two Fellowships for the use of women. They are assigned to the various subjects of instruction, from year to year, by the Board of Trustees as are the Harrison Fellowships. The holder is required to possess a baccalaureate degree satisfactory to the Executive Committee, and to qualify as a candidate for the Doctorate. She is required to reside, during her tenure of the Fellowship, at the University of Pennsylvania. She receives a stipend of \$225 per annum, is exempt from the payment of tuition fees, but is required to pay laboratory and graduation fees.

No individual can hold one of these Fellowships for more than three years.

Upon the Frances Sergeant Pepper Foundation.

This Fellowship was endowed by the late William Pepper, M.D., Provost of the University, 1881-94. The holder receives a stipend of \$225 per annum. The conditions of appointment and of tenure are identical with those of the Bennett Fellowships.

Upon the Mrs. Bloomfield Moore Foundation.

Two Fellowships for the use of women were endowed by the late Mrs. Bloomfield Moore. The conditions of appointment and of tenure are identical with those of the Bennett and Pepper Fellowships, excepting that the candidate must intend to become a teacher. The stipend is \$200 per annum.

UNIVERSITY FELLOWSHIPS.

The Corporation may, from time to time, upon the recommendation of the Executive Committee, create special University Fellowships for a year, or term of years, with or without a stipend, as the resolution creating the Fellowship may direct. Such Fellowships are usually created in consequence of a special endowment. Both men and women are eligible.

SCHOLARSHIPS.

The Scholarships are assigned by the Board of Trustees annually to the various subjects of instruction.

A candidate for a Scholarship is required to hold a baccalaureate degree satisfactory to the Executive Committee. During the tenure of the Scholarship the holder is required to reside at the University of Pennsylvania, and to pursue to the satisfaction of his instructors not less than eight standard courses in each academic year. He is exempt from the payment of tuition fees, but is required to pay laboratory and graduation fees. He may or may not receive a stipend.

Upon the George Leib Harrison Foundation.

Eight Scholarships have been created upon the GEORGE LEIB HARRISON Foundation. The holder is entitled to free tuition, and to a stipend of \$100 per annum; he is only allowed to engage in outside work upon receiving the written consent of the Dean. No individual is permitted to hold a Harrison Scholarship for more than one year. Men only are eligible.

The Frances E. Bennett Scholarship.

A Scholarship in English Literature open to women has been endowed in memory of the late Miss Frances E. Bennett by a number of her pupils and friends. This Scholarship will be open to candidates who present evidence of a suitable preparation for pursuing graduate work. The possession of a degree or candidacy for a degree is not required. The candidate, however, must intend to be-

come a teacher. The incumbent receives a stipend of \$250 per annum and is exempt from the payment of tuition fees, but is required to make the usual deposit and pay the graduation fees.

No individual can hold this scholarship for more than three years.

Traveling Scholarships.

Two Traveling Scholarships, one in French and one in German, with a stipend of \$300 each, have been established as follows:

The Jusserand French Traveling Scholarship Fund, founded in 1912, provides for the annual award of the Scholarship upon the recommendation of the Romance Language Department to the student best prepared for study at a French University.

The German Traveling Scholarship Fund, founded in 1914, provides for the annual award of the Scholarship, upon the recommendation of the Department of Germanics, to the student best qualified to pursue studies in Germany.

Application for these Scholarships should be made through the Dean of the Graduate School only.

University Scholarships.

Thirty Scholarships have been created by the Corporation. Holders are exempt from the payment of tuition fees, but receive no stipend. Both men and women are eligible.

GENERAL INFORMATION.

For blank forms of application for Fellowships and Scholarships, and for all further information concerning the Graduate School, address

HERMAN V. AMES, Dean,
College Hall, University of Pennsylvania.

The office hours of the Dean are from 9 A. M. to 12 M., daily. The office, 105 College Hall, is open from 9 A. M. to 5 P. M., daily. Saturdays, from 9 A. M. to 1 P. M.

THE APPOINTMENT BUREAU.

A University Appointment Bureau has been established, the purpose of which is to assist graduates of the University to secure positions in all lines of educational work. The Bureau aims to assist graduate students to secure suitable positions and also its former graduates, now teaching, to obtain better appointments. In addi-

tion, the Bureau will also endeavor to assist students to find positions as tutors or part time teachers in local schools. No enrollment fee is required and no charge is made for any services rendered by the Bureau. The coöperation of graduates of the University is also desired in securing notice of vacancies in teaching positions. Blank forms for enrollment and a circular containing full particulars with regard to the work of the Bureau may be obtained by addressing Professor Arthur J. Jones, Director of the Appointment Bureau, University of Pennsylvania.

SUMMER SCHOOL.

The Summer School session will be held for the year 1917, from Monday, July 9th, to Saturday, August 18th.

Graduate courses are offered in a number of departments, and students will receive credit for such work if they matriculate in the Graduate School. Copies of the Summer School announcements will be mailed on request.

The degree of Master of Arts can be attained by work done exclusively in the Summer School, without any fixed limit to the number of years taken in earning the necessary credits. Credit may also be secured in part in the Summer School toward the degree of Doctor of Philosophy.

For description of these courses and additional information in regard to work in the Summer School, students should consult the Summer School announcement, which can be obtained by addressing Dr. Owen L. Shinn, Director of the Summer School, College Hall, University of Pennsylvania.

COURSES OF INSTRUCTION.

Statements in regard to major and minor subjects offered by each Group Committee, as announced under the several group headings, relate to work for the degree of Doctor of Philosophy and represent those divisions of topics which are commonly recognized. Other divisions may be allowed in special cases.

Any arrangement of courses approved by the Group Committee offering them, may, with the consent of the Committee in charge of the major, be elected as a minor subject, provided it meets the requirement of the Group Committee in charge of the minor.

A major for the Master's degree consists of at least six standard courses in some single group, approved by the Group Committee.

Except where the contrary is stated, lecture or seminary courses of one hour or laboratory courses of two hours extending over a year, and lecture or seminary courses of two hours or laboratory courses of four hours extending over a term, are accounted standard courses.

Courses indicated by an asterisk (*) are primarily for graduate students. Courses indicated by two asterisks (**) are primarily for undergraduates. All other courses are for graduates exclusively. For further explanation of the starred courses, see page 23.

The University reserves the right to make changes in the hours at which the courses are given, in the personnel of the teaching staff, and in the courses announced.

I. ANTHROPOLOGY.

Assistant Professor SPECK, *Acting Chairman*;

Mr. AITKEN.

Assistant Professor SPECK.

Hours a
week.

- I. **General Anthropology. M. W. 2 2

Man's position in the animal kingdom; classification of man. Prehistoric Archaeology; theories of language. Ethnography: types of culture in Africa, Europe, Asia, Australia, the Pacific, North and South America.

3. *Primitive Arts and Industries. Tu. Th. 11.30. Prerequisite, Anthropology I 2
Discussions and lectures on selected topics of primitive aesthetic and economic life. The members of the department will co-operate.
5. *Primitive Religions. First Term. M. 4-6..... 2
Analysis and comparison of early forms of worship and belief. Primitive mythology.
6. *American Linguistics. Tu. Th. 10..... 2
An introduction to the study of aboriginal American languages. Discussion of special linguistic types and selected readings from texts. Distinct American languages are selected in consecutive years, so that the work in linguistics may be taken as a continuous course for two years.
7. **American Archaeology and Ethnology. Tu. Th. 2..... 2
The prehistoric remains and the characteristics of aboriginal American culture. The linguistic stocks and their affiliations; mode of life, domestic arts, social organizations and religious beliefs of the Indian tribes. Illustrated by collections in the Museum and by lantern slides.

Mr. AITKEN.

2. **Archaeology and Ethnology of Europe. Tu. Th. 3. Stone, bronze and iron ages. Ethnology of European peoples. Prerequisite, Anthropology I 2
8. **Peoples of the Pacific. Second Term. Tu. Th. 8.30..... 2
Physical type, material culture, customs and beliefs of the various ethnic groups forming the population of the Pacific islands.
10. *Social Morphology. W. 2-4 2
Social organization; sociological methods; totemism and exogamy; age grades; secret societies.
11. *Ethnology of Australia. F. 9-11..... 2
The material culture, social organization, mythology and religion of the native tribes of Australia. First term.
12. *Ethics of Primitive Peoples. M. 2-4..... 2
History and criticism of ethical theories with regard to savages. Moral and racial prejudice. Relation of ethics to

religion. Treatment of aged, training of children, influence and position of women.

The University affords certain special facilities for instruction in anthropology and related sciences. The collections in the Wistar Institute of Anatomy are of value in teaching physical anthropology, while those at the College of Physicians are available for the same purpose by the courtesy of the Trustees of that institution. For the teaching of ethnology, illustrative material is afforded by the collections in the University Museum from the North American Indians, Borneo and several Central African tribes. Smaller, but valuable, collections in the Museum afford illustrative material for the primitive peoples of Australia and the Islands of the South Pacific. For the study of American archaeology, the Museum contains collections from most of the ancient culture areas of North and Central America. For the prehistoric archaeology of Europe there is a small series of paleolithic implements and neolithic implements, while the early bronze age in Europe is represented by an Etruscan collection and one from Crete. The prehistoric period of Northern Africa is represented by a small series of flints from Upper Egypt.

For the study of American linguistics, students have the use of the Brinton collection of books and manuscripts in the Museum library.

All these collections are especially valuable in affording material for research for graduate students pursuing special lines of investigation or preparing dissertations.

The ethnological collections of the Academy of Natural Sciences and the Commercial Museums contain material illustrating the cultures of groups of people dealt with in the courses. The Zoölogical Gardens are visited by classes for the observation of culture animals.

The meetings of the Anthropological Society of Philadelphia afford opportunities for advanced students to mingle with those interested in the subject, and to participate in discussions and hear papers dealing with current anthropological topics.

II. SEMITIC LANGUAGES AND ARCHAEOLOGY.

Professor MONTGOMERY, *Chairman*; Professor JASTROW;
Assistant Professors MÜLLER and HUSIK. Dr.
CHIERA.

Majors—Assyrian, Arabic, Egyptology, Hebrew, Aramaic
Dialects.

Minors—Students electing a minor in the group must
confine their work to one of these languages.

The courses offered every year in Semitic languages in-
clude grammar, interpretation of the different branches of
literature, and palaeography. Courses on the life, customs,
religion and history of the Semitic nations will be given at
stated intervals.

ASSYRIAN.

Professor JASTROW and Dr. CHIERA.

Hours a
week.

- | | |
|--|---|
| 2. Assyrian Grammar | 2 |
| For beginners and students of Comparative Semitic
Grammar. Exercises in reading cuneiform writing, and
interpretation of easy historical texts. Ungnad, <i>Babyl.
Grammatik</i> , and Delitzsch, <i>Assyrische Lesestücke</i> (5th Ed.). | |
| 3. Selected Sumerian and Babylonian Religious Texts (Lita-
nies, Hymns, Omen Texts, Incantations and Medical Texts) . | 2 |
| 4. Selected Sumerian and Babylonian Business Documents of
the old Babylonian and Hammurapi Periods | 1 |
| 5. Practical Exercises in Copying Tablets | 2 |

HEBREW.

Professor JASTROW.

11. Interpretation of the Book of Judges, with special attention
to division of sources and geographical material 2
12. Readings in English, with explanatory comments.
Public course. Tuesday at 3 P. M. The book selected for
1917-1918 will be the Prophecies of Isaiah.
(See announcement under History of Religions.)

Professor MONTGOMERY.

Hours a
week.

13. Religion of the Hebrews 1
 14. Selections from the Prophets 1
 15. The Wisdom Literature, including Ben Sira 1

ARAMAIC.

Professor MONTGOMERY.

16. Biblical Aramaic and Aramaic Papyri 1

JEWISH PHILOSOPHY.

Assistant Professor HUSIK.

17. History of Jewish Philosophy 2
 Lectures and papers. Judeo-Alexandrian School, the
 medieval Aristotelians and Neo-Platonists from Saadia to
 Joseph Albo.

SYRIAC.

Professor MONTGOMERY.

18. Third Year Course 1½

SEMITIC EPIGRAPHY.

Professor MONTGOMERY.

19. Phoenician and Aramaic Inscriptions (omitted in 1917-18).. 1

ARABIC.

Professors JASTROW and MONTGOMERY.

21. Beginners' Course in Arabic Grammar..... 2
 22. Selections from "The Travels of Ibn Batutah" 1
 25. Selections from the Annals of Tabari 1
 23. Selected Suras of the Koran 1
 24. The Fakhir of Al-Mufaddal Ibn Salama 1

MODERN ARABIC.

Assistant Professor MÜLLER.

25. Beginners' Course (Egyptian Dialects) 2

ETHIOPIC.

Assistant Professor MÜLLER.

Hours a
week.

31. Beginners' Course (Praetorius Grammar) 1
 26. Third Year Course; Pseudepigraphic Books.

EGYPTOLOGY.

Assistant Professor MÜLLER.

27. Elementary Egyptian 2
 28. Elementary Coptic 1
 29. Egyptian for advanced students (Religious Texts)..... 1
 30. Religion of Egypt. Second Term. Omitted in 1917-18 1

III. INDO-EUROPEAN PHILOLOGY AND SANSKRIT.

Professor KENT, *Chairman*; Professor CARNOY; Assistant
 Professor EDGERTON; Dr. BROWN.

Major or Minor—Indo-European Philology; Sanskrit.

Minors—Iranian Philology; Classical Philology.

The amount and character of the work done under the rubric Indo-European Philology varies very much, depending upon the special purposes of the student. Sanskrit is always included, and general Indo-European phonology, as well as Greek and Latin linguistics; and certain courses primarily linguistic in character, conducted by other departments, may, by special permission, be counted under this subject.

Students taking Sanskrit as a minor will be required to take work in Sanskrit for two years, two hours a week. Those taking Sanskrit as a major will be expected to attend the Sanskrit Seminary for at least two years. They will also be required to take some courses in Indo-European Philology.

The Sanskrit Seminary (Course 5) is the center of activity for students who wish to specialize in Sanskrit. It pursues a three-year cycle, being devoted in successive years to

different fields of the Vedic, Classical Sanskrit and Pāli-Prakrit literatures. During the coming year its subject will be in the Rigveda. Course 4 is intended to help students to acquire facility in reading the texts by more rapid reading than is possible in the Seminary.

Course 6, while recommended to students of Sanskrit, is primarily intended to afford students of general history and the humanities an opportunity to become acquainted with the evolution of Hindu civilization in its broader aspects.

Course 7 is intended primarily for general students of the history of religion.

INDIAN LANGUAGES AND LITERATURES.

Assistant Professor EDGERTON.

Hours a
week.

1. Elementary Sanskrit 2

For beginners. Whitney's Sanskrit Grammar: Lanman's Sanskrit Reader. Lectures on the history of the Sanskrit sounds and inflections. Careful and intensive study of representative texts.

2. Second Year's Sanskrit. First Term 2

Selections from the Hitopadeṣa, the Mānavadharma-śāstra, and the Kathāsaritsāgara.

3. Introduction to the Veda. Second Term 2

Selected hymns from the Rig Veda, accompanied by lectures and conferences on the language, religion and culture of the Vedic Hindus. A prerequisite for the Seminary. Open to those who have had Course 2.

4. Advanced Reading Course 1

Rapid reading of selected Hindu dramas. Open to those who have had Courses 2 and 3.

5. Sanskrit Seminary 1

Intensive study of selected hymns of the Rigveda. Open to those who have had Courses 2 and 3.

6. *History of Indian Culture and Institutions. Tu. Th. 11.30.. 2

Lectures on the development of civilization in India, with reading of books of reference, reports, conferences, and occasional written tests. (No foreign language required.) To be given in case as many as five students apply.

	Hours a week.
7. Indian Religions. Omitted in 1917-18	1
8. Elementary Pāli. Omitted in 1917-18	1
9. Advanced Pāli. Andersen's Pāli Reader	1
Dr. BROWN.	
12. Elementary Hindi	2
Grammar and Reading.	

IRANIAN AND ARMENIAN.

Professor KENT.

16. Old Persian	1
Tolman, <i>Ancient Persian Lexicon and Texts</i> .	
17. Elementary Avestan	2
Jackson, <i>Avesta Reader</i> ; or Reichelt, <i>Avestisches Elementarbuch</i> .	
18. The Gāthās of the Avesta	2
19. Zoroaster and the Religion of the Parsis. Omitted in 1917-18.	1
A seminary course for which a reading knowledge of German and French is essential. Jackson's <i>Iranische Religion</i> will be the text-book.	

Professor CARNOY.

35. Armenian	1
Meillet, <i>Armenische Grammatik</i> .	

BALTO-SLAVONIC.

Professor KENT.

20. Lithuanian	2
Wiedemann, <i>Handbuch der litauischen Sprache</i> .	

Assistant Professor EDGERTON.

28. Russian	2
Elements of the Russian language. Rapid survey of the grammar, followed by reading of selections from modern Russian novelists and poets (Chekhov, Andreev, Garshin, Tolstoi, Pushkin, Lermontov and others). Berneker's <i>Russische Grammatik</i> ; Boehme's <i>Russische Literatur</i> .	

COMPARATIVE INDO-EUROPEAN PHILOLOGY.

Professor KENT.

Hours a
week.

29. Indo-European Seminary 1 or 2
Open to properly qualified students.

Professor CARNOY.

32. The Science of Language 2

During the first semester, the course will be devoted to a consideration of the general problems concerning language: its nature, its development, its various types.

During the second semester, the subject treated will be semantics, with a special consideration of Classical and Romance Languages.

The lecture is, however, useful for all students of languages: ancient, modern and oriental.

CLASSICAL PHILOLOGY.

[For a full description of these courses, see pages 49 and 53.]

By special permission, first year Sanskrit and Historical Latin Syntax may be taken under this title.

Professor KENT.

22. Greek Phonology and Morphology. First Term. Omitted in 1917-18 2
23. The Greek Dialects. Second Term. Omitted in 1917-18.... 2
24. Latin Phonology and Morphology, Elementary Course. Omitted in 1917-18 1
25. Latin Phonology and Morphology, Advanced Course. First Term 1
26. The Italic Dialects. Second Term 2
27. Semasiology. First Term. Omitted in 1917-18 1
30. Linguistic Readings in the Roman Grammarians. Omitted in 1917-18 1
31. Linguistic Readings in Latin Inscriptions. Second Term. S. II 2

Professor CARNOY.

Hours a
week.

36. Folk Latin and the Origins of the Romance Languages.
First Term 2
37. Lexicology and Semantics of Folk Latin and Romance.
Second Term 2

IV. GREEK.

Professor BATES, *Chairman*; Professors KENT and CARNOY;
Assistant Professors CROSBY and HYDE.

Major—Greek.

Minors—Greek; Greek Archaeology.

For a Minor in Classical Philology, courses listed under this heading in Indo-European Philology may be taken.

A Minor in Classical Archaeology may be arranged by consultation with the Greek and Latin departments.

The authors and works read in the group vary from year to year in such wise as to enable each student taking the work as a major to cover the principal periods and spheres of the literature.

NOTE.—The University of Pennsylvania is a contributor to the support of the American School of Classical Studies at Athens. Its graduates are therefore entitled to free tuition in that school, and may become candidates for the Fellowships it offers each year.

I. LANGUAGE AND LITERATURE.

Professor BATES.

2. The *Poetics* of Aristotle; Longinus, *De Sublimitate*. First Term 2
Reading and discussion of the text. Studies in Greek literary criticism.
3. The Greek Lyric Poets. Second Term 2
Lectures and reading of extant fragments.

Hours a
week.

4. Euripides. Omitted in 1917-18 2
The Greek drama as represented by Euripides. Lectures and special studies. All the extant plays will be read and fragments of lost plays studied.
5. The Republic of Plato. Omitted in 1917-18 2
17. Pindar and Bacchylides. First Term. Omitted in 1917-18, 2
For courses in Pausanias and in Greek Epigraphy see page 50.

Professor CARNOY.

1. Greek Seminary. Training in textual criticism and interpretation. In 1917-18 the text studied will be the Homeric Hymns 2
25. A History of Greek Style 2
A study of the development of expression in representative authors. The first term will be devoted to early writers; the second term to the later writers.
For course in Science of Language, see page 47.

Professor KENT.

6. Greek Phonology and Morphology. First Term. Omitted in 1917-18 2
Lectures on the alphabet and pronunciation of Greek, and the development of the Greek sounds, suffixes and terminations from the primitive Indo-European; practical exercises. The forms of the Attic dialect are the basis of this course.
Students should provide themselves in advance with Wright's *Comparative Grammar of the Greek Language*.
8. The Greek Dialects. Second Term. Omitted in 1917-18 ... 2
Lectures on the phonology and morphology of the Greek dialects, and reading of selected inscriptions. (Open only to those who have had 6 or its equivalent.)

Assistant Professor CROSBY.

9. Demosthenes; private orations 2
10. A Critical Study of the Iliad 2
11. Aristophanes. Plays and Fragments. Omitted in 1917-18, 2
12. Advanced Greek Composition 1

Assistant Professor HYDE.

Hours a
week.

14. Sophocles. The Seven Plays. First Term. Omitted in 1917-18 2
15. Greek Pastoral Poetry. Theocritus, Bion and Moschus. Second Term. Omitted in 1917-18 2
16. The Religion and Worship of the Greeks..... 2

First Term: General History of Greek Religion from the beginnings to the advent of Christianity; sources of knowledge and general characteristics; the religion of Crete and Mycenaean sites of the mainland; the Homeric System; the Mysteries; the religion of the fifth and fourth centuries; the Alexandrine and Graeco-Roman epochs; the Greek cults.

Second Term: The cults continued and an account of the Religious Thinkers of Greece.

II. ARCHAEOLOGY.

Professor BATES.

20. Greek Epigraphy. One Term. Omitted in 1917-18..... 2

Lectures on the Greek alphabet, and its development in different parts of the Greek world, with practical exercises in reading inscriptions from facsimiles and squeezes. A collection of squeezes, which includes nearly every important inscription now preserved in Athens, is in the possession of the instructor. Roberts, *Introduction to Greek Epigraphy*.

21. Pausanias. Two Terms 2

Pausanias, *Periegesis*, with special study of the monuments of Athens and Delphi. Books I and X will be read and discussed in the light of recent discoveries. Papers will be presented by the student from time to time, giving the results of his study of special problems. Text-book, Spiro's *Pausaniae Descriptio Graeciae*. Omitted in 1917-18.

22. Professor Bates will direct properly qualified students in the investigation of special topics in classical archaeology. The material in the Mediterranean Section of the Free Museum of Science and Art is available for this purpose.

Hours a
week.

24. A general course in Greek Archaeology. First Term, Mycenaean Archaeology; Architecture. Second Term, Greek Sculpture; Lectures and Reports.

Assistant Professor HYDE.

23. The Topography and Monuments of Olympia and other Peloponnesian Sites. Omitted in 1917-18 2

Readings from Pausanias in the light of recent excavations. This course includes lectures on Architecture, Sculpture and Painting, as well as Topography.

NOTE.—For courses in Greek History, see History.

V. LATIN.

Professor ROLFE, *Chairman*; Professors McDANIEL, KENT and CARNOY; Assistant Professors HADZSITS and VAN DEVENTER; Dr. HEFFNER.

Candidates for the degree of Ph.D., whose major subject is Latin, may elect one or both minors in Latin also. Such students are advised, however, to elect one minor in Greek. Any of the members of the Group Committee will be glad to advise with students in planning their work, so as best to accomplish the particular object in view in each case.

The following courses are intended to cover a period of three years. The order in which they are offered depends on the needs of the students in attendance each year.

NOTE.—The University of Pennsylvania has been a contributor to the support of the American School of Classical Studies at Rome. Its graduates are therefore entitled to free tuition in that school, and may also become candidates for the Fellowships it offers each year.

LITERATURE.

Professor McDANIEL.

Hours a
week.

3. The Occult in Vergil. First Term. Omitted in 1917-18 ... 2
4. The Earliest Latin Literature Concerning Christianity.
Omitted in 1917-18 2
The lectures will consider from the point of view of the student of Roman life the points of friction between Christianity and paganism, and may be taken independently as a one-hour course for which a reading knowledge of Latin is not essential. The illustrative reading includes the *Octavius* of Minucius Felix, early references to Christianity in pagan authors and typical passages from Christian writers.
5. Roman Ethical Theories and Practice. Omitted in 1917-18 .. 2
The lectures may be taken separately as a one-hour course for which a reading knowledge of Latin is not essential. The illustrative reading in the authors will cover all periods of Latin literature.
6. The Literature of Christianity. Selected Readings. Omitted in 1917-18 2
38. Epigram. Selected Readings. M. 7.30-9.30 P. M. 2

Assistant Professor HADZSITS.

2. Ovid's *Fasti*. Omitted in 1917-18 1
Reading of the text, with reports and lectures.
8. Roman Philosophy. Omitted in 1917-18 1
Interpretation of the religion and ethics of the Roman Epicurean and Stoic schools; lectures; reading of selected passages from Lucretius, Cicero, Seneca; collateral reading and reports.
9. Roman Religion 1
The orthodox religion of the Romans, with the history of their cults and festivals; lectures; collateral reading and reports.
10. Lucretius. Omitted in 1917-18 1
Reading and interpretation of the text; lectures and reports.
23. Cicero: Tusculan Disputations. A rapid reading course; lectures and reports. Omitted in 1917-18 2

Assistant Professor VAN DEVENTER.

Hours a
week.

30. Latin Literature of the Republic. Omitted in 1917-18 1
31. Latin Literature of the Empire. Omitted in 1917-18 1
Lectures and readings.
39. Early Latin. Omitted in 1917-18 2
Lectures, reading and interpretation of both the literary
and inscriptional remains.
40. Elegiac Poets 2
41. Juvenal and Persius. Omitted in 1917-18 2

WRITING AND COMPOSITION.

Dr. HEFFNER.

12. Introductory Course 1
13. Advanced Course. Omitted in 1917-18 1

PHILOLOGY.

Professor ROLFE.

14. The History and Problems of Classical Philology. Omitted
in 1917-18 1
15. Colloquial Latin. One Term. Omitted in 1917-18 2

Professor KENT.

16. Latin Phonology and Morphology, Elementary Course.
Omitted in 1917-18 1
Lectures on the alphabet and pronunciation of Latin, on
the phonetic processes more easily seen within Latin itself,
and on the suffixes and terminations of nouns and verbs;
practical exercises.
29. Linguistic Readings in the Roman Grammarians. First
Term. Omitted in 1917-18 2
Readings in Quintilian and Gellius and in selected passages
of other authors bearing on the orthography, pronunciation,
word formation and inflection of Latin; with explanatory
lectures.
35. Linguistic Readings in the Latin Inscriptions. Second Term.
S. II 2

Hours a
week.

17. Latin Phonology and Morphology, Advanced Course. First Term 1
Lectures on the development of the sounds and suffixes of Latin from the primitive Indo-European; practical exercises; methods in the investigation of etymologies. (Open to those who have taken or are taking Course 16 or an equivalent.)
19. The Italic Dialects. Second Term 2
Lectures on the phonology and morphology of Oscan and Umbrian, and reading of the inscriptions. (Open to those who have had Course 17 or its equivalent.)
20. Semasiology. One Term. Omitted in 1917-18 1
Lectures on the manner and cause of the change of meanings in words; practical exercises and investigations.
18. Historical Latin Syntax. First Term. S. II..... 2
A brief survey of linguistic study among the Romans, and lectures treating the development of the nominal, verbal and sentence constructions in Latin; followed by practical exercises based upon selected passages from Caesar, Cicero and Vergil.

Professor CARNOY.

36. Folk Latin and the Origins of the Romance Languages. First Term 2
Study of folk Latin, phonology, morphology and syntax, with especial reference to the origins of the Romance Languages.
37. Lexicology and Semantics of Folk Latin and Romance. Second Term 2

PRO-SEMINARY.

Professor ROLFE.

21. Introduction to the methods of criticism and research (Horace's Epistles). Tu. 7.30 to 9.30 P. M., and a third hour to be arranged 3

SEMINARY.

Professor MCDANIEL.

22. Training in Criticism and Research. Presentation of papers. Tu. 7.30-9.30 P. M. and a third hour to be arranged..... 3

ARCHAEOLOGY.

Professor ROLFE.

Hours a
week.

24. Introduction to Roman Archaeology. Omitted in 1917-18 .. 1
The lectures will be illustrated by the stereopticon, and supplemented by the use of the department's collection of antiquities, and by visits to the University Museum.
25. Latin Epigraphy. Omitted in 1917-18 2
The department's collection of inscriptions, squeezes of inscriptions, and lantern slides, together with the objects in the University Museum, will be used for practical exercises, supplementing lectures and reading.
26. Latin Paleography. S. 9-11 2
Lectures; practical exercises on facsimiles of manuscripts in the University Library.

Professor McDANIEL.

27. Roman Life. Omitted in 1917-18 2
Lectures illustrated by the stereopticon, reading and reports; special attention will be paid to Rome's relations to other civilizations.

Assistant Professor HADZSITS.

28. Roman Topography 1
The lectures will be illustrated by pictures and lantern slides; collateral reading and reports.
NOTE.—For courses in Roman History, see History.

VI. ENGLISH.

Professor SCHELLING, *Chairman*; Professors PENNIMAN,
CHILD, QUINN and WEYGANDT.

Majors—English Literature; English Philology.

Minor—American Literature.

The following courses are designed to cover in outline and also in detail the entire history of English Literature from its beginnings on the Continent to the present day.

The main subjects are not divided into a number of minor courses with special headings, as emphasis is laid upon providing the students with a comprehensive and substantial training rather than upon the elaboration of minor problems and inquiries into independent subjects. Such special matters are dealt with in their proper places under these main courses or are assigned as special tasks to individual students.

Each of these courses involves the preparation and discussion of papers embodying original work within the range of the general subject. A course in English Philology, equivalent to a minor, will be required of all who take English Literature as a major. Some work in English History may also be demanded of students taking major or minor courses in English Literature.

ENGLISH LITERATURE.

Professor SCHELLING.

Hours a
week.

1. The Elizabethan Lyric. Seminar Course. First Term.
Omitted in 1917-18 2

This course is concerned with the History of the English Lyric of Art from the days of Henry VIII to the death of Shakespeare in 1616. The subject is considered from an æsthetic and organic as well as an historical point of view, and such forms as the pastoral lyric, the sonnet, and the lyric intended to be set to music are studied in their completeness.

2. Poetry of the Seventeenth Century. Seminar Course. Second Term. Omitted in 1917-18 2

This course continues the study of English lyrical poetry from the death of Shakespeare to the conclusion of the century. It also takes into consideration the poetry of this period in other forms, laying special stress on devotional poetry and occasional verse up to the death of Dryden in 1700.

19. The Comedies of Shakespeare. Omitted in 1917-18..... 2

In this course the student is held responsible for a close acquaintance with all of the comedies of Shakespeare. Sev-

Hours a
week.

eral of them are studied in class with specific reference to the character of the text, the language and the customs of the age; and the style and diction of the comedies, their prosody and their quality as drama and poetry are given special attention.

20. The Histories of Shakespeare. Second Term. Omitted in 1917-18 2

In this course the student is held responsible for a close acquaintance with all of Shakespeare's chronicle plays or histories together with selected specimens of certain other like plays, the work of Shakespeare's contemporaries. Several of Shakespeare's histories are studied in class as in course 19.

3. English Drama from the Beginnings to the Death of Shakespeare. First Term. Tu. Th. 3 2

This course includes the history of the drama from its beginnings through miracle, morality play and interlude, the predecessors of Shakespeare and Shakespeare himself. The structure of the drama, the nature and development of the Elizabethan stage, the contest between the court and the city as to the presentation of the plays, are among the topics treated.

4. English Drama from Shakespeare to Dryden. Second Term. Tu. Th. 3 2

History of the drama as conducted under the leadership of Fletcher, Massinger, Ford, and Shirley, involving a consideration of the Jacobean Masque, the Pastoral, the College Drama, "The Romance," and the decadent romantic drama and Comedy of Manners of the reign of King Charles.

21. The Tragedies of Shakespeare. Both Terms. Omitted in 1917-18 2

In this course as in courses 19 and 20 the student is held responsible for a close acquaintance with the tragedies of Shakespeare. Several of them are studied in class as in the other courses in the reading of Shakespeare, just named.

22. Tudor Prose. First Term. W. 4-6..... 2

A Seminary Course in the prose writers of the Tudor period, 1509-1603, comprising a study of works of the chroniclers, geographers, divines, and fiction. Euphuistic, Arcadian and realistic; the pamphleteers, the translators and the prose of controversy and criticism.

23. Prose of the Stuart Period. Second Term. W. 4-6..... 2

A Seminary Course in the prose writers of the reign of King James, King Charles and in Commonwealth times. The Essay and the Character, history, biography; Stuart pamphlets, fiction and criticism; the prose of the dramatists.

Professor PENNIMAN.

5. The Development of English Literary Criticism from Chaucer to the death of Dryden. First Term. Omitted in 1917-18, 2

This course includes a discussion of the literary critics of the Renaissance in their influence on English Poetry and Drama; the Elizabethan Critics of Verse; the theories of the Epic; the influence and theories of Boileau and the French Classical School; Rymer and the criticism of Shakespeare; Milton; Dryden and his Critical Essays.

6. English Literary Criticism since Dryden. Second Term. Omitted in 1917-18 2

This course considers the English Classical School as exemplified in Addison, Dennis, Pope and Johnson; the reaction against classicism; the development of the novel and the critics of prose; the rise of æsthetic criticism; the theories of poetry of Wordsworth, Coleridge, Shelley, Matthew Arnold; the rise and functions of the Review and the modern Critical Essay.

24. The Romantic Movement in English Poetry in the Eighteenth Century. First Term. Tu. 4-6 2

This course considers the reaction against classicism in poetry; mediævalism; the Democratic and Humanitarian movements; the changes toward metrical freedom; blank verse and the Spenserian Stanza; Thomson, Percy's Religues, Cowper, Blake and Burns.

Hours a
week.

25. English Poetry from Wordsworth to Browning with reference to the Romantic Movement. Second Term. Tu. 4-6 ... 2

The writings of Wordsworth, Coleridge, Shelley, Keats, Byron, Scott, Rossetti, Tennyson, Browning and Swinburne will be the basis of discussion. Such topics as the influence of the French Revolution on Poetry; the Symbolism of Nature; the Poetry of Faith and of Doubt; the influence of Science; the transcendental movement, and the rise of democratic ideas will be treated.

Professor CHILD.

7. Old English Literature to the Reign of Alfred. First Term. Omitted in 1917-18 2

This course covers the beginnings of literature, the remains of primitive forms of verse in Teutonic Literature, and the poetry of the Anglo-Saxons to the time of Alfred. A knowledge of Old English is not necessary.

8. Old English Literature from Alfred to the Norman Conquest. Second Term. Omitted in 1917-18 2

This course continues the history of Anglo-Saxon Literature, carrying it from the works of Alfred to the Norman Conquest, together with works to be classed as Anglo-Saxon of the period following the Conquest up to 1150.

9. Middle English Literature from 1150 to 1250. First Term. S. II-I 2

In this course the works of the first period of Middle English are taken up in order of date and dialect, so far as these may be ascertained, and read, with comment, from texts furnished the student. No previous knowledge of Middle English is necessary.

10. Middle English Literature from 1150 to 1250. Second Term. S. II-I 2

A continuation of Course 9.

29. Middle English Literature from 1250 to 1350. Omitted in 1917-18 2

This course covers the second period of Middle English Literature.

A continuation of Course 9.

11. Chaucer. Omitted in 1917-18 2

This course includes reading and detailed study of Chaucer's works, with lectures and papers upon the events of Chaucer's life, and questions and problems connected with his works.

12. The Literature of the Fifteenth Century. Omitted in 1917-18. 2

This course is similar to Course 9. Special attention will be given to the followers of Chaucer, the Scottish poets, and the development of Humanism in England.

Professor QUINN.

13. Theory and History of English Versification. First Term. Omitted in 1917-18 2

This course includes, first, a discussion of the principles of English versification, involving the question of accent, quantity, and tone color, the building up of the verse elements into lines, and of lines into stanzas, and, second, an historical treatment of English meters, emphasizing the influence of Old English meters upon Modern English verse, as well as the influence of foreign systems. Special forms of verse such as the ballad, the decasyllabic couplet, blank verse, the sonnet, and the French and Italian forms are treated in detail.

14. Forms and Movements in American Literature to the Civil War. First Term. M. W. 3 2

In this and the next course stress is laid on the interrelation of American History and Literature, and the lectures are based upon the development of forms or upon great literary movements. This course includes a general introduction, dealing with the literature of settlement and colonization; the literature of the Revolution; the foundations of national literature; the development of American Criticism; the treatment of the supernatural, the poetic representation of American life, the Transcendentalist movement in New England, and kindred topics.

17. Forms and Movements in American Literature from the Civil War. Second Term. M. W. 3 2

This course includes lectures upon the literature dealing

Hours a
week.

with the anti-slavery movement and that which centers around the Civil War; the element of democracy in American Literature, the later development of the essay, especially in criticism, the later lyric, American humor, folk lore and kindred topics.

26. The Novel in America. First Term. Omitted in 1917-18 .. 2

This course consists of lectures upon the beginnings of the novel in the late eighteenth century, the rise of romance in the first half of the nineteenth century, the classic-realistic reaction after the Civil War; the international and cosmopolitan novel; the later historical novel; the novel of spiritualism; the sectional romance; the novel of manners; the psychological novel, and the novel of social satire.

27. The Drama in America. Second Term. Omitted in 1917-18, 2

This course consists of lectures upon the development of the American Drama from the college exercises of the eighteenth century through the early work of Godfrey and Tyler, to the drama of the nineteenth century, laying emphasis upon the work of Dunlap, Barker, Payne, Bird, R. P. Smith, Boker, Boucicault, Herne, Howard, Augustus, Thomas, Fitch, Percy MacKaye and others. Special emphasis is laid upon the development of types of drama such as historical plays, "Yankee" plays, social satire, romantic tragedy and comedy, with constant reference to theatrical conditions that have affected the drama.

Professor WEYGANDT.

15. The Development of English Poetry from 1850 to the Present Day. Omitted in 1917-18 2

This course consists of lectures on the development of English poetry from 1850 to the present day. It considers George Meredith, Hardy, James Thomson, Robert Buchanan, Coventry, Patmore, Francis Thompson, Henley, Stevenson, Kipling, Watson, Bridges, Phillips, Masfield, Noyes, Davidson, A. E. Housman, Symons, etc. The Pre-Raphaelite Movement, the Oxford Movement, the Poetry of Empire, and the other movements that distinguish the period are discussed.

16. The Development of the English Drama from 1850 to the Present Day. First Term. S. 9-11 2

This course consists of lectures on the English Drama from Macready's assumption of the management of Covent Garden to the present time. It considers Sheridan Knowles, Bulwer-Lytton and Talfourd; Robertson and his school; Gilbert; Grundy; Pinero and H. A. Jones; Bernard Shaw and the influence of Ibsen; Stephen Phillips and the contemporary plays in verse; the Manchester School.

18. The Celtic Renaissance. Second Term. S. 9-11 2

This course consists of a study of the movement that shortly after 1890 came to be called the "Celtic Renaissance." As Irish writers are dominant in this movement, special emphasis will be laid on contemporary Irish literature. Poetry, the drama, the novel and the essay will be considered. Among the writers discussed are Mangan, Allingham, Ferguson, W. B. Yeats, George W. Russell ("A.E."), Lionel Johnson, Edward Martyn, Lady Gregory, Colm, Synge, George Moore, Katharine Tynan Hinkson, Emily Lawless, Shan Bullock, William Buckley, James Stephens, Dunsany, William Sharp, Neil Munro.

28. The Development of English Fiction from George Meredith to Galsworthy. Omitted in 1917-18 2

This course considers the modern novel from the mid-years of the nineteenth century until to-day. It follows its widening scope under the influence of Charlotte Bronte, George Meredith and George Eliot; the continuance of its older forms in Trollope, Du Maurier and De Morgan; the development of realism in Hardy, George Moore, and George Gissing; the return to romance in Blackmore, Stevenson, and their followers; the propagandist movement of H. G. Wells, John Galsworthy, etc.

ENGLISH PHILOLOGY.

Professor CHILD.

Candidates for the Doctorate taking English Philology as a major are required to take English Literature as a minor. In addition to the specific courses in English Philology,

Hours a
week.

courses are required in Germanic Philology, which must include a study of Gothic, and in Romanic Philology, preferably old French. Additional courses will be advised in accordance with the student's special interest and requirements.

36. Old English. First Term. M. 4-6 2
Grammar and translation—in particular a detailed study of the phonology from its origins in Indo-Germanic. Wright's *Old English Grammar*, Bright's *Anglo-Saxon Reader*.
37. Old English Seminary. Second Term. M. 4-6 2
Reading and critical study of a selected text. Lectures and papers. Course 1 or its equivalent is prerequisite.
38. Middle English Philology. First Term. Omitted in 1917-18, 2
The phonology of the Middle English period and its developments in Modern English. Jespersen's *Modern English Grammar*, Emerson's *Middle English Reader*.
39. Middle English Seminary. Second Term. Omitted in 1917-18 2
The reading and critical study of a selected text, either Middle English or Early Modern English. Lectures and papers. Course 3 or its equivalent is prerequisite.
40. Modern English Philology. Omitted in 1917-18 2
A systematic survey of English syntax, with especial reference to Modern English.

VII. GERMANIC LANGUAGES.

Professor LEARNED, *Chairman*; Professor SHUMWAY; Dr.

FOGEL, Dr. A. JOHNSON and Dr. METZENTHIN.

The graduate courses in Germanic Philology are grouped in cycles of three years, in order to enable the student to pursue his studies in all the representative periods of Germanic Languages and Literature—Gothic, Old High German, Middle High German, New High German (including the sixteenth, seventeenth, eighteenth and nineteenth centuries).

During the cycle of three years, at least one seminary course will be offered in each of the more important periods.

Professor LEARNED.

I. Germanic Seminary. W. 4-6 2

Courses given in 1917-18:

(a) Old German Popular Epic. First Term.

Its relation to the dramatic and lyric poetry of the period; the evolution of the epic style and meter; the Germanic minstrel and his art.

(b) Middle High German. Courtly Epic.

The origin, content and form of the popular German epic; Relation of the popular epic to the court epic; influence of the court life; revival of the epic in the twelfth century; relation of the popular epic to the courtly epic; Romantic epics in German form.

Courses given in 1918-19:

(a) Early German Prose Novel. First Term.

(b) The German Novel of the Nineteenth Century.
Second Term.

In this course special attention will be given to the influence of foreign forces as well as native literary, political and social movements upon the German Novel. Particular emphasis will be laid upon the sources of the novels chosen for treatment as illustrating certain types. The relation and interaction of the Novel and Drama will be kept constantly in mind.

Courses given in 1919-20:

(a) Early German Drama. First Term.

The rise and growth of the German Drama will be treated with special reference to the Easter and Christmas Plays in their relation to the liturgy; the Passion Play in its fuller forms; the Shrove Tuesday Plays of Folz, Rosenplüt and Hans Sachs; the English comedians in Germany; the plays of Jacob Ayrer; the Latin School Drama in its relation to Humanism; the Dramas of Gryphius and Christian Weise; the dramatic reforms of Gottsched.

Hours a
week.

(b) The Minnesong. Second Term.

The origin, sources and development of the German Lyric poetry of the twelfth century.

2. *History of German Literature. Two Terms. Th. 5..... 1

Courses given in 1917-18:

Humanism, Reformation and Renaissance. Two Terms.

Courses given in 1918-19:

Early Eighteenth Century, Storm and Stress, Classicism and Romanticism. Two Terms.

Courses given in 1919-20:

(a) Old High German Period. First Term.

(b) Middle High German Period. Second Term.

The purpose of these lectures on German Literature is to offer a continuous treatment of the growth of literary forms from the earliest monuments to the nineteenth century, with special reference to the sources and content of the characteristic works. The literature will be considered as an expression of national life and character, and not simply as an aggregation of literary works.

3. Literary Relations of England and Germany. Second Term. 1

In this course special attention will be given to the influence of English literature in Germany from the sixteenth century down to 1800. Special emphasis will be laid upon the eighteenth century. The influence of the English Weeklies, the English Novel as represented by De Foe, Richardson, Fielding, Sterne, Scott and Dickens. Milton's *Paradise Lost*, and Thompson's *Seasons*, will be discussed.

4. German Influence on American Literature. Given in 1917-18 1

In this course the influence of German Literature in America will be traced through the eighteenth and early nineteenth centuries, with special emphasis upon the American Drama and Novel after the Revolution, the literary awakening under Poe, Longfellow, the Concord School, the Brook Farm, and later literary movements.

5. *Goethe's Lyrical Poems. Omitted in 1917-18 1

The course on Goethe's Lyrics consists of a historical treatment of Goethe's literary development and a critical interpretation of his lyric poems. The genesis, sources, and form of his lyrics will receive especial emphasis. The poems selected for interpretation will illustrate the several epochs of Goethe's Lyric activity—the Anacretonic, the Klopstockian, the Pindaric, the Classic, the Oriental.

Professor SHUMWAY.

6. Readings of Early German Manuscripts. First Term.
Omitted in 1917-18 1

The purpose of this course is to assist students who are expecting to do research work, through practice in the readings of manuscript material of the last three centuries.

7. Elementary Middle High German. First Term..... 2

(a) Study of grammar and reading of some courtly epic. Omitted in 1917-18.

(b) Study of the grammar and reading of the poems of some lyric writer. Omitted in 1917-18.

NOTE.—See course 23.

8. Advanced Middle High German. Second Term..... 2

(a) The *Nibelungenlied*. Lectures on the sources and history of the poem; interpretation of the text. Omitted in 1917-18.

(b) Gottfried von Strassburg's *Tristan und Isolde*. Lectures followed by interpretation of the text. Omitted in 1917-18.

(c) Wolfram von Eschenbach's *Parzival*. Lectures on the poem and its sources; interpretation of selected passages. Omitted in 1917-18.

(d) German Minnesong. Lectures and interpretation of selected poems. Given in 1917-18.

9. Old High German. Two Terms. Omitted in 1917-18 2

(a) Elementary course consisting of the study of the grammar and reading of prose selections. First Term.

Hours a
week.

- (b) Advanced course. Interpretation of poetical monuments; written reports on the various authors and works discussed. Second Term.
10. Gothic. Given in 1917-18. Tu. Th. 4 2
Study of the grammar, including phonology and morphology. Lectures on Ulfilas and his translation of the Bible.
11. Old Saxon. First Term. Omitted in 1917-18 2
Lectures on the history of the *Heliand*; interpretation of selected passages accompanied by a study of grammatical forms.
12. Middle Low German. Second Term. Omitted in 1917-18.. 2
Study of the grammar; lectures on *Reinecke de Vos* and interpretation of the text.
13. Sixteenth Century German. First Term 2
(a) Sebastian Brant's *Narrenschiff*. Lectures and interpretation. Omitted in 1917-18.
(b) Thomas Murner's works. Lectures and interpretation of selected poems. Omitted in 1917-18.
(c) Johann Fischart's works. Lectures and interpretation of selected poems. Omitted in 1917-18.
14. Seventeenth Century German. First Term. Tu. Th. 3.... 2
Lectures on the development of New High German, followed by the study of the language of some seventeenth century writer.
15. Germanic Philology 3
(a) Elementary course, consisting of lectures introducing the student to the fundamental principles of the science and presenting a general survey of the field.
(b) Advanced course, consisting of a detailed study of the phonology and morphology of the Germanic languages, based on Streitberg's *Urgermanische Grammatik*. It will be conducted on the semi-nary plan. Omitted in 1917-18.

Dr. METZENTHIN.

Hours a
week.

Courses in the German language, consisting of lectures, papers and discussions designed for the practical use of the German language.

Course given in 1917-18:

20. *Modern German Lyric Poetry. Two Terms. M. Tu. 5.... 2

Lectures in German on the Lyric Poetry of the Nineteenth Century: Lyrics of the Wars of Liberation and of Romanticism. *Jung Deutschland*, the Suabian School, the Oriental School, the various modern schools, with numerous readings.

Course given in 1918-19:

17. *Schiller's Life and Works. Two Terms 2

Lectures in German on Schiller's Life. Criticism and interpretation of his Poetic Works, his Philosophy and his Aesthetic Views.

Course given in 1919-20:

19. *Contemporaneous German Literature. Two Terms. Tu. Th. 5 2

Lectures in German on German Literature since 1870: the *Jüngstdeutsche Schule*, Naturalism, Neo-Romanticism, Symbolism.

Dr. FOGEL.

- 23 Middle High German. Elementary. Given in 1917-18. First Term 2

Study of the grammar. *Der Arme Heinrich*.

24. German Folklore 2

German folklore will be treated with special reference to its relation to myth and legend and to later literature. The comparative method will be followed throughout.

(a) The Early Period. Omitted in 1917-18.

Lectures on the migrations, development of the Germanic state, mythology, and the struggle between Christianity and German heathendom.

(b) The Medieval Period. Given in 1917-18. Second Term.

Lectures on life and custom in the Middle Ages, the rise of cities, feudalism, chivalry and the crusades.

Hours a
week.

(c) The Modern Period. Omitted in 1917-18.

Lectures on court and peasant life, folk customs, folk poesy, dialects and superstitions.

25. Germanic Religion and Christianity. Omitted in 1917-18... 1

Christianity among the Goths. Early traces of Christianity among the Merovingians before the conversion of Clovis. Christianity among the Franks from Clovis to Charles the Great. Christian domination of Church and State. Celtic Christianity before St. Augustine. Christianity of the North. The Heliand. The Capitularies. Lectures and papers on assigned topics. See section (d) History of Religions.

SCANDINAVIAN LANGUAGES.

Dr. JOHNSON.

26. The Mythology of the Early Germanic Peoples 1

27. Ibsen, Björnson and Strindberg 1

Lectures and papers on important plays.

28. Modern Scandinavian Literatures in Their Relation to Germany, England, France and America. Omitted in 1917-18.. 1

Lectures and papers on assigned subjects.

29. Modern Danish-Norwegian. First Term 2

Grammar and reading of texts. Omitted in 1917-18.

NOTE.—If desired, courses 28 and 29 may be continued through the year, in which case some time will be devoted to conversation.

30. Modern Swedish. Second Term 2

Grammar and reading of texts.

31. Old Norse. Course given in 1917-18.

(a) Grammar and reading of prose. First Term 2

(b) Reading of prose Sagas. Reports on assigned topics. Second Term 2

32. Old Norse. Course omitted in 1917-18.

(a) The mythological and gnostic lays. Reading of texts and lectures on Old Norse Literature. First Term 2

Hours a
week.

- (b) The heroic and mythic-heroic lays. Review of Grammar (including syntax) and reading of texts. Papers on "The Nibelungen Saga as Preserved in the Edda," "The Sagas and Eddic Lays as Sources in Modern Literature," and other assigned topics. Second Term 2
33. Journal Meeting. W. 8 2
Held on the third Wednesday of each month at 8 p. m. Reports upon and discussion of the current literature relating to Germanics. All students with German as major subject are expected to participate.
34. The Germanic Association. The work of this Association, which the instructors and graduate students of German are expected to attend, is an essential part of the work in German. An original paper is presented at each meeting. This may be followed by minor communications. Evening of the first Wednesday in each month.

NOTE.—German Conversation. Students who elect German as a major, are required to join the class given in German, unless they already have a satisfactory command of colloquial German. Courses 17, 19, 20 are recommended.

FACILITIES FOR THE STUDY OF GERMAN.

COURSES IN THE GERMAN LANGUAGE. A number of courses are given in the German language and offer the student an opportunity to speak German and to write German essays or reports on assigned subjects.

In addition to these opportunities, the speaking of German is encouraged as a means of intercourse among the students themselves, and between student and instructor.

DEUTSCHER VEREIN. Graduate students as well as undergraduates have a further opportunity of speaking German by joining the *Deutscher Verein*, which has regular weekly meetings, conducted in German. A German play is usually given.

DEUTSCHER KREIS. An organization of the graduate and undergraduate women students with aims similar to those of the *Deutscher Verein*. A German play is given each year.

THE LIBRARY OF THE GERMAN SOCIETY. The Library of the German Society contains a rich collection of books relating to Germany and German life in America.

LIBRARIES. The University Library has a well-equipped apparatus for the study of the Germanic Languages and Literatures. The large and valuable collection of books known as the Bechstein Library has been enriched during the last twenty years by many rare and valuable additions acquired by means of the Harrison Fellowships and other generous gifts. A special feature of this collection is the *Handapparat* of Professor Bechstein, consisting of several thousand monographs on Germanic subjects kept up to date.

PUBLICATIONS. There are two avenues through which University students of Germanics can publish the finished results of their researches. One of these is the series of Monographs published under the title of *Americana Germanica*, and devoted to the more extensive treatises in the field of German American relations. The other is a periodical appearing six times a year under the title of *German American Annals*. This organ is published by the German American Historical Society under the editorship of Professor M. D. Learned and is likewise devoted to German American relations. Both of these publications are open to contributors in any part of the world.

VIII. ROMANIC LANGUAGES.

Professor RENNERT, *Chairman*; Professor CRAWFORD;

Assistant Professors SHANKS; VAUGHAN, SERONDE

and DE SAUZÉ; Mr. WATERHOUSE and Mr.

ROMERA-NAVARRO.

Majors—Old French and Provençal; Modern French; Spanish and Italian; Italian and French; Spanish and Portuguese, French and Spanish.

Minors—A student taking one of the above subjects as a major must also choose a minor in the Department of Romanic Languages.

Professor RENNERT.

Hours a
week.

I. Old French. Tu. 4 I

Rapid reading of a text, for those who have some knowledge of the subject. This year the text selected is Chrestien de Troyes, *Chevalier au Lion* (Förster's edition, Romanische Bibliothek; Halle, Niemeyer)

2. Old Provençal. Tu. 3 I
Poème sur Boece. Selections from Appel, *Provenzalische Chrestomathie*.
3. Early Italian. Omitted in 1917-18 I
 The Sicilian Poets, with special reference to their imitations of the Provençal poets. Nannucci, *Manuale della Letteratura del primo Secolo della Lingua Italiana*, Vol. I.
4. Italian. M. 4 I
 Dante, *Il Paradiso*.
5. Old Spanish. M. 2 I
Poema del Cid.
6. The Spanish Drama of the Seventeenth Century. M. 3 I
 Lope de Vega, *La Dorotea*, *La Estrella de Sevilla*.
7. The History of Spanish Literature. Omitted in 1917-18 ... I
 A general view of the subject, based upon *La Littérature espagnole*, par J. Fitzmaurice-Kelly (Paris, Armand Colin, 1913).
8. Early Portuguese. First Term I
 José Joaquin Nunes, *Chrestomathia archaica da Literatura Portuguesa* (Lisboa, 1906). Lang, *Das Liederbuch des Königs Denis von Portugal* (Halle, 1894).
9. Catalan. Second Term I
 This is a beginner's course open only to those having a knowledge of Spanish or of Old Provençal. Foulché-Delbosc, *Abrégé de Grammaire Catalane*. The texts used are: Santiago Rusiñol, *D'aquí i d'allà*; Valenti Amirall, *Articles Literaris*. For the early period; *Histoires d'altre Temps*; *Valter y Griselda*, *La Filla del Rey d'Hongria* and *Paris y Viana* (Barcelona, 1905). Ausias March, *Les Obres*, etc. (Madrid, 1881).
30. Portuguese. Omitted in 1917-18 I
 Camoens, *Os Lusíadas*.
18. Spanish Lyric Poetry. Omitted in 1917-18 I
 Menéndez y Pelayo, *Antología de Poetas líricos españoles*; Vols. III and IV.

Professor CRAWFORD.

Hours a
week.

10. Introduction to Old French. W. F. 3 2
Study of Old French Phonology and inflections. Careful reading of the oldest texts. Old French Literature.
16. Italian Renaissance. Omitted in 1917-18 1
Consideration of special topics of Italian Literature of the Fifteenth and Sixteenth Centuries. Studies in Italian lyric poetry.
17. The Early Renaissance in Spain. W. 4 1
A study of the classical influence on Spanish Literature and of the literary relations of Spain and Italy in the fifteenth and first half of the sixteenth centuries.
19. Literature of the French Renaissance. Omitted in 1917-18.. 1
21. The Later Renaissance in Spain. F. 4 1
A study of the Literary Relations of Spain and Italy from 1525 to 1625.
34. Spanish Poetry of the Sixteenth Century. Omitted in 1917-18, 1

Assistant Professor SHANKS.

20. Origin and Development of French Romanticism. Omitted in 1917-18 2
22. Seminar in Nineteenth Century French Literature. Omitted in 1917-18 2
23. Modern French Literary Criticism. Th. 4-6 2

Assistant Professor VAUGHAN.

24. Historical Italian Grammar. Omitted in 1917-18 1
25. Introduction to Romanic Philology. Th. 4 1
A comparative study of the phonology of the principal Romanic languages.
42. Introduction to Romanic Philology. Omitted in 1917-18 .. 1
A comparative study of the morphology of the principal Romanic languages.

Assistant Professor SERONDE.

32. Old French Lyric Poetry. Omitted in 1917-18 1

Hours a
week.

33. French Poetry of the Nineteenth Century. W. 4 I
Lectures, readings and discussions of representative poets.
Conducted in French.
40. Advanced French Composition. F. 4 I
Weekly themes on literary topics. Open only to ad-
vanced students in French. Course conducted in French.
43. French Drama of the Nineteenth Century. Omitted in
1917-18 I

Assistant Professor DE SAUZÉ.

45. Les Romanciers. Naturalistes. Th. 4. I
Flaubert, de Goncourt, Maupassant, Zola. Conducted in
French.
46. Advanced French Syntax. Th. 5. I
Intensive study of difficult points in French Syntax.

Mr. WATERHOUSE.

27. French Classical Comedy. Omitted in 1917-18 I
Detailed study of the plays of Molière.
35. French Drama of the Eighteenth Century. Omitted in
1917-18 I
44. French Classical Tragedy. S. 9 I
Detailed study of the plays of Corneille and Racine.

Mr. ROMERA-NAVARRO.

41. Advanced Spanish Composition. Th. 5 I
Weekly themes on literary topics. Open only to advanced
students in Spanish. Course conducted in Spanish.

Attention is called to the following courses given by
Professor CARNOY, which count toward a major or minor
in Romanic Languages.

Professor CARNOY.

36. Folk Latin and origins of the Romanic Languages. First
Term 2
37. Lexicology and Semantics of Folk Latin and Romance.
Second Term 2

FACILITIES FOR THE STUDY OF ROMANIC LITERATURES.

The University Library offers excellent facilities for the study of Romanic literatures. There is a large collection of Old French texts and critical works, while Spanish and Portuguese are also well represented. The Library is notably rich in editions of Dante, Petrarch, Ariosto and Tasso. The more important Romanic journals are also on file.

PUBLICATIONS.

A part of the cost of printing especially meritorious dissertations in the University of Pennsylvania Studies in Romanic Languages is defrayed by the Romanic Department Publication Fund.

IX. FINE ARTS.

Professor EVERETT, *Chairman*; Professors CRET* and DAWSON;
Assistant Professor GUMAER and Mr. HOLLAND.

Majors—History of Architecture; History of Painting.

Students taking fine arts as a major may also elect their minors from the same group; otherwise they are advised to elect minors from the groups in literature, history and archaeology.

Before receiving a doctor's degree, students will be expected to spend at least three months in Europe studying original monuments. In certain cases work in American art collections and study of American colonial monuments may be substituted for the European study.

Professor DAWSON and Assistants.

Hours a
week.

I. Theory of Drawing. Single course 4

Practice in the technical methods of drawing and painting from objects. Planned for the study of the processes of art rather than the development of skill.

*Absent on leave.

Professor CRET.

Hours a
week.

2. The Philosophy of Architecture. Second Term. Omitted in 1917-18 1

Study of the development of an architectural element under the influence of new conditions of life; new ideas and the restraint of tradition. Influence of social conditions upon architectural development. The theorists of architecture. This course is given in the French language.

Assistant Professor GUMAER.

3. History of Architecture from Earliest Period to Modern Times 2

Professor EVERETT.

4. History of Italian Painting 2

RESEARCH COURSES.

Professor CRET.

5. Analysis of Style. Omitted in 1917-18 1

Comparison of historic monuments to discern the æsthetic principles of the different periods; the influence of tradition and of materials.

Professor EVERETT.

The research courses in painting and sculpture will deal principally with questions connected with the origins of masters and schools, with the authorship and chronology of works of art. Drawings by the great masters will receive special attention. Subjects for original investigation will be assigned in the art collections of Philadelphia, New York, Boston and New Haven.

Each course will occupy two hours a week for one term.

6. Florentine Painters of the Fourteenth and Fifteenth Centuries. Omitted in 1917-18 2
7. Florentine Painters of the Sixteenth Century. Omitted in 1917-18 2
8. Central Italian Painters 2

Hours a
week.

9. North Italian Painters of the Fourteenth and Fifteenth Centuries. Omitted in 1917-18 2
10. North Italian Painters of the Sixteenth Century. Omitted in 1917-18 2
11. Italian Sculpture of the Fourteenth and Fifteenth Centuries. Omitted in 1917-18 2
12. Italian Sculpture of the Sixteenth and Seventeenth Centuries. Omitted in 1917-18 2

Three courses will be offered supplementary to Course 3, each requiring one year for its completion. These courses will consist of research in the origin and the development of styles and in the relation of the architecture to the political and social conditions of the period in which it was developed. At the close of the academic year, a digest or thesis will be required. An ability to read French is a prerequisite.

Assistant Professor GUMAER.

13. History of Ancient Architecture 2
14. History of Renaissance Architecture in Italy 2

Mr. HOLLAND.

15. History of Medieval Architecture in France 2

COLLATERAL COURSES IN ARCHAEOLOGY.

Professor BATES.

16. Pausanias 2

Professor ROLFE.

17. Introduction to Roman Archaeology 2
- See also Course 23 in Greek Archaeology.

Professor FLACCUS.

18. History of Aesthetics. Second Term 2

X. HISTORY.

Professor McMASTER, *Chairman*; Professors CHEYNEY, AMES,
LINGELBACH, HOWLAND and McKINLEY,
Dr. VAN NOSTRAND.

Majors—American History, American Constitutional History;
Medieval History; Modern European History; English History; Ancient History.

LECTURE COURSES.**EUROPEAN HISTORY.**

Dr. VAN NOSTRAND.

**Hours a
week.**

1. *Greek Institutional History. Omitted in 1917-18 2
The beginnings, development and decline of the Greek City-State. The political, economic and cultural features of the Hellenistic World, 336-212 B. C.
2. *Roman Imperialism. Omitted in 1917-18 2
The effect of expansion upon the institutions of Rome. Success and failure of Rome as an imperial state.
16. *The Oriental Empires; or, the Ancient History of the Near East (to 500 B. C.). Th. 4-6 2

Professor HOWLAND.

3. **Church History to the beginning of the Fifteenth Century. Omitted in 1917-18 2
Early organization of the Church; the persecutions; Christianity as the state religion; development of the papal power; monasticism and the conversion of northern Europe; nature of the medieval Church—its powers, jurisdiction and influence; heresies; the popes at Avignon; the Great Schism.
4. Medieval Institutions. W. 4-6 2
A discussion of some of the more important institutions of the Middle Ages, such as the judicial system of the early Germans, the revival of the Roman Law, the constitution of the Church, canon law, feudalism, the Holy Roman Empire, the communes. Besides the lectures there will be reports on special topics from time to time by members of the class.

Hours a
week.

5. The Writings of the Great Historians. Omitted in 1917-18.. 1

The object of the course is to gain an idea of the personalities of the writers, their methods of investigation, their general attitude toward the past, the present value of their work and their place in the development of historical knowledge. The authors selected will be those who have dealt with ancient or medieval history. A considerable amount of reading in the works of these men will be required.

Professor LINGELBACH.

6. *Studies in the Social and Economic History of Continental Europe since 1815. Omitted in 1917-18 2

The work will consist of lectures and reports on questions related to the industrial revolution, reconstruction after the overthrow of Napoleon, peasant emancipation, rural and town life before 1870, the economic basis for the national movement in Germany and Italy, the emigration of North Europeans, the land question in Russia, industrial expansion, the growth of cities and social legislation.

Professor CHEYNEY.

8. *Relations between England and the Continental Countries from the Fourteenth to the Sixteenth Century. Omitted in 1917-18 2

Lectures intended to point out the main lines of the development of Europe during this period and to describe England's economic, political and intellectual relations with France, Germany, Italy and the Netherlands.

7. *The Rise of the British Empire. M. W. 2 2

The discovery, colonization, conquest and history of the dominions which make up the British Empire, the principal corresponding movements in the internal history of England, including the development of colonial administration.

AMERICAN HISTORY.

Professor AMES.

10. *The Constitutional History of the United States to Jackson's Administration. Omitted in 1917-18 2

Particular attention is directed to the formation and development of the Federal and State Constitutions; the

interpretation of the Federal Constitution by the several departments and the States, in connection with the chief constitutional issues, with especial reference to the conflict over "State Rights" and "Nationalism." Collateral reading and reports.

11. *Constitutional History of the United States from Jackson's Administration. Tu. Th. 11.30 2

Especial attention will be given to the constitutional issues of the period, particularly those growing out of the slavery controversy and the secession movement. Required readings and reports.

Professor MCKINLEY.

12. *The Civil War and Reconstruction. First Term. M. W. 10.30 2

Slavery and the causes of the Civil War. The political and constitutional questions connected with secession; the government of the United States and of the Confederate States during the war. The chief topics of the Reconstruction Period to 1872.

15. *The United States since 1877. Second Term. M. W. 10.30.. 2

National political and economic problems arising since the close of Reconstruction; relation of industry to politics and legislation; financial questions; the tariff; labor organizations; aggregation of capital; imperialism; demand for reform; new methods of democratic control.

Professor McMASTER.

13. **The United States in the Nineteenth Century. M. W. 9.30, 2

Expansion of the United States; boundary disputes with foreign nations; acquisition and use of the public domain; movements of population, immigration; social and legal reforms; labor problems; slavery and its abolition; development of transportation by roads, canals, steamboats, railroads; exploration of the West; treatment of the Indians; industrial, financial, commercial growth of the country. A course of lectures on the life of the people, with required readings and written reports.

SEMINARY COURSES.

EUROPEAN HISTORY.

Dr. VAN NOSTRAND.

Hours a
week.

20. Introduction to the Study of Ancient History 2

A general bibliographical orientation will be followed by lectures on the sources: literary, epigraphical, etc., accompanied by reports and practical exercises. The course will be adapted to the needs of those taking it. A knowledge of Latin and (preferably) German or French will be required.

Professor HOWLAND.

21. The Pontificate of Innocent III. Omitted in 1917-18 2

A study of the conditions within the church and of its organization with special reference to the action taken by the Fourth Lateran Council.

22. Feudalism in the Tenth Century. Omitted in 1917-18..... 2

The work will be based upon one of the narrative sources of the period and the various questions suggested by the text will be followed up in detail.

23. The Royal Power in France in the Time of Louis VII. Omitted in 1917-18 2

A discussion of the sources for this period of French history with a general survey of the previous growth of royal authority. This will be followed by a study of such subjects as the relation of the Crown to the monasteries, the jurisdiction of the king's courts and the attitude of the great feudatories toward the central authority.

Professor LINGELBACH.

24. England's Navigation System. F. 4-6 2

Special attention will be given to the period from the withdrawal of the Orders of Council to the abolition of the Corn Laws.

25. The Continental System of Napoleon. Omitted in 1917-18.. 2

A critical discussion of the historical sources available for this period, and a survey of French foreign policy with respect to England and the United States from 1778 to the establishment of the Empire will serve as an introduction to the course. Subjects for investigation will then be selected

from the following: the inception and development of the continental system; its administration as seen in one or two of the North Sea ports; the orders in council; the license trade; the effect of the system upon certain lines of trade and industry in France and England, and on the neutral commerce of the United States.

Professor CHEYNEY.

Hours a
week.

26. English Constitutional History, from the Eleventh to the Fourteenth Century. Omitted in 1917-18 2

A study of feudal institutions as found in the Domesday Book, of the early administrative system as indicated by the records of the Exchequer, of early judicial development as shown in the law-writers and court records, of the beginnings of representation as traced in the writs and the rolls of Parliament, and of the general constitutional development of the period as shown in charters and other documents.

27. English Social History, from the Fourteenth to the Sixteenth Century. Omitted in 1917-18 2

Studies in the organization of rural society as indicated in the Hundred Rolls, in extents, and in manor court records; in town organization as shown in the statutes and charters of merchant, craft and social guilds; in domestic and foreign trade and commerce; and in monastic life and institutions.

28. England in the Sixteenth and Seventeenth Centuries. S. 9-II 2

The organization of central and local government in the period of Elizabeth and the early Stuarts, diplomatic relations with the Netherlands, France and Germany, and some of the more important institutions, movements and personalities of that time.

Professor AMES.

30. Pro-Seminar in United States History. Omitted in 1917-18, 2

State and Federal Relations. A study of the more important phases of the States Rights Controversy from the secession movement of 1850 onward.

Hours a
week.

31. England and the Colonies. Omitted in 1917-18 2
A study of the development of the Imperial System as seen in the governmental and commercial relations of England and the Colonies in America.
32. The Reconstruction Period. Th. 4-6 2
A study of the theories and actual process of reconstruction; the contest between the Executive and Congress; the various phases of reconstruction as applied in typical states.

Professor McMASTER.

33. The People During the Civil War. Omitted in 1917-18 2
A study of the conditions produced by the war 1861-65; their effects upon our foreign relations; trade; commerce and domestic affairs.
34. Pro-Seminar. The Jacksonian Period. W. 10.30-12.30 2

COURSES IN METHODOLOGY.

EUROPEAN HISTORY.

Professor HOWLAND.

40. Palæography and Diplomatics. Omitted in 1917-18 2

Professor CHEYNEY.

41. Historical Analysis and Construction. Omitted in 1917-18 .. 1

Professors CHEYNEY, LINGELBACH and HOWLAND.

42. Bibliography. M. 3.

A study of general historical bibliographies, guide-books, and periodicals, and of the special bibliography of Medieval, Modern European and English History.

Professor McKINLEY.

43. *The Teaching of History. M. 4-6. One course 2

A discussion of the problems arising in connection with the teaching of history in secondary and elementary schools; aims and values of history teaching; historical method; influence of geography; organization of fields of history; problems of emphasis and omission; class-room methods in history, including the lecture, quiz, recitation, assignment of the lesson, and use of aids; testing history instruction; practical work in actual classes in history.

XI. HISTORY OF RELIGIONS.

Professor KENT, *Chairman*; Professors JASTROW, NEWBOLD, McDANIEL, HOWLAND and MONTGOMERY; Assistant Professors HADZSITS, SPECK, EDGERTON, HYDE and MÜLLER; Dr. FOGEL, Dr. A. JOHNSON and Mr. AITKEN.

GENERAL AND COMPARATIVE COURSES.

Professor JASTROW.

Hours a
week.

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| 1. | Introduction to the Study of Religions. M. 2 | 1 |
| 2. | Outline of the History of Religions. (Second Year Course.) | |
| | M. 1 | 1 |

This course is arranged to cover three years. In the first year primitive religions and the religions of Egypt, Babylonia, of the Hebrews and Phoenicians and Zoroastrianism are studied; in the second year, the religions of India, of China, of Japan and Islam; third year, religions of Greece and Rome, the Teutonic and Celtic religions.

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| 3. | Comparative Study of Birth, Marriage, and Funeral Customs. Seminar Course. Omitted in 1917-18 | 2 |
| 4. | The Scope of Sacrifice in Ancient Cults. Seminar Course. | |
| | Second Term | 1 |

ANTHROPOLOGY.

Assistant Professor SPECK.

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| 5. | *Primitive Religions. First Term. M. 4-6 | 2 |
| | Comparative and analytical study of concepts in primitive and non-ethical types. | |

Mr. AITKEN.

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| 12. | *Ethics of Primitive Peoples. M. 2-4 | 2 |
| | See Anthropology, Course 1 (page 39), which may be elected for credit in this group. | |

SPECIAL COURSES.

(a) RELIGION OF EGYPT.

Assistant Professor MÜLLER.

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| 10. | Religion of Egypt. Second Term. Omitted in 1917-18..... | 1 |
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(b) RELIGION OF THE SEMITES.

Professor MONTGOMERY.

Hours a
week.

11. Religion of the Hebrews 1

Professor JASTROW.

13. Selected Sumerian and Akkadian Religious Texts 2

This course will consist of a study of the texts and presupposes a knowledge of Assyrian (see also Semitic Languages).

- 13a. The Book of Isaiah in English with Archaeological and historical comments. Tu. 4 1

This course is offered free to the public. Its purpose is to give in a popular form the generally accepted results of the historical and critical study of the Book of Isaiah. The lecturer will read his own translation, chapter by chapter, and comment as he goes along, special stress being laid on the historical background. Those who apply for the course will be expected to bring their English Bibles with them. Applications should be sent in writing to the Dean. Due notice of the date for the beginning of the course—probably the first Tuesday in December and to continue till the middle of April—will be given.

(c) RELIGIONS OF INDIA AND PERSIA.

Professor KENT.

14. Zoroaster and the Religion of the Parsis. Omitted in 1917-18 1

Text-book: Jackson's *Iranische Religion*. A seminar course for which a reading knowledge of French and German is essential.

Assistant Professor EDGERTON.

15. Religions of India. Omitted in 1917-18 1

Development of Religious Thought in India, from the earliest times to the rise of Buddhism and Jainism.

(d) RELIGION OF THE GREEKS AND ROMANS.

Professor McDANIEL.

16. The Earliest Latin Literature concerning Christianity. Omitted in 1917-18 2

Hours a
week.

Lectures: reading of Minucius Felix, *Octavius*, and of selected passages from other writers. The lectures may be taken separately as a one-hour course, for which a reading knowledge of Latin is not essential.

17. Latin Christian Literature. Selected Readings. Omitted in 1917-18 2

Assistant Professor HADZSITS.

18. Roman Religion 1
19. Roman Philosophy. Omitted in 1917-18 1
33. Ovid's *Fasti*. Omitted in 1917-18 1

Assistant Professor HYDE.

20. The Religion and Worship of the Greeks. First Term, the Cults; Second Term, the Religious Teachers 2
See Greek, Course 16 (page 50).

(e) GERMANIC RELIGIONS.

Dr. FOGEL.

21. German Folk Lore. Second Term 2
23. Germanic Religion and Christianity. Omitted in 1917-18.... 1
Christianity among the Goths. Early traces of Christianity among the Merovingians before the conversion of Clovis. Christianity among the Franks from Clovis to Charles the Great. Christian dominion of Church and State. Celtic Christianity before St. Augustine. Conversion of the North. The Heliand and the Capitularies. Lectures and papers on assigned subjects.

Dr. JOHNSON.

24. The Mythology of the Germanic Peoples 1
See Germanics, Course 26.
Papers on assigned subjects and reports on important books in this field.

HISTORY OF THE CHRISTIAN CHURCH.

Professor HOWLAND.

25. Medieval Church Institutions. W. 4-6 2

Hours a
week.

26. Church History from the First to the Beginning of the Fifteenth Century. Omitted in 1917-18 2
See European History, Course 3, page 78.
27. Medieval Church History. Seminar. Omitted in 1917-18.. 2

PHILOSOPHY.

Professor NEWBOLD.

28. *Development of Christian Thought. Omitted in 1917-18.. 2
See Philosophy, Course 2, page 101.
29. Philosophy and Religion in the Later Age 2
See Philosophy, Course 11, page 102.
31. Plato. Omitted in 1917-18 2
See Philosophy, Course 9, page 102.
32. History of Ancient Philosophy. M. 7.30-9.30 P. M..... 2
See Philosophy, Course 1, page 101.
For courses in Ethics, see page 101.

XII. POLITICAL SCIENCE.

Professor ROWE, *Chairman*; Professors YOUNG, PIERSON, SULLIVAN and BALLAGH; Assistant Professors KING and PATTERSON.

Professor ROWE.

- 1a. *International Law; Law of Peace and of War. First Term. W. F. 10.30 2
Development of international law. Relation of international law to the public and private law. General principles governing States in their normal relations. Law governing States in the relation of war. Special reports by members of the class.
- 1b. *International Law: Law of Neutrality. Second Term. W. F. 10.30 2
The concept of neutrality in ancient and modern times, with special reference to the problems associated with blockade, contraband of war and unneutral service. Special reports by members of the class.

2. *The United States and Latin America. Tu. Th. 10.30..... 2

The development of the policy of the United States with reference to Central and South America. The Monroe Doctrine. Its application during the nineteenth and twentieth centuries. The present international situation in Central and South America. Policy of the United States with reference to these Problems.

Professor ROWE and Assistant Professor KING.

15. City Government. First Term. S. II-I 2

The place of the city in history. The ancient, medieval and modern city. The position of the city in the political system of the United States. Comparison with Great Britain, Germany and France. Present tendencies in the organization of city government. Government by Commission. The City Manager Plan.

- 15a. City Problems. Second Term. S. II-I 2

The relation of the city to quasi-public works. The city's public utilities; their importance, functions, control, development and regulation.

Professor YOUNG.

3. **Labor 2

The legal and other sides of the employer's position in labor problems. Federal and State legislation, and the more important court decisions are considered. Special attention is given to the prevention and avoidance of labor difficulties by the use of modern methods of organization and the newer labor policies of the employer.

Professor PIERSON.

4. *Railway Law. M. 4-6 2

A discussion of the legal relation of railways to the public, to each other, and to the shipper. State and Congressional legislation concerning carriers. The Interstate Commerce Act, The Elkins Act, The Safety Appliance Act, etc. Decisions.

Professor BALLAGH.

Hours a
week.

5. Foreign Relations and Diplomacy of the United States. Seminary. M. 10.30-12.30 2

Coöperative study of special topics in which original contributions can be made. Critical study of methods of investigation, interpretation, and construction. The practice and policies of the United States in its relations with the countries of Europe, the Near East, and the Far East.

6. Administration. Omitted in 1917-18 2

A study of the organization of National and State administrative systems, and of the more important problems arising in the law and practice under these systems; of the legal relations established between administrative officers; of the powers of administrative officers; of the control exercised over the administration by the legislative and judicial departments. The position in our administrative system of municipal and quasi-municipal corporations. The nature of office and the methods by which the official relation is formed, including the law of appointment, election, and removal. The relation of administrative officers to the individual, and the protection afforded the latter through extraordinary legal remedies: quo warranto, prohibition, mandamus, injunction.

7. **Diplomatic and Consular Procedure and Practice. W. 10.30-12.30 2

The science and practice of international intercourse as conducted by diplomatic and consular agents, naval officers, and international unions and institutions.

8. *Political Theories. Th. 10.30-12.30 2

Lectures, reports and discussion of the literature of the subjects in selected fields. Particular attention will be given to the modern development of political philosophy in America and Europe.

9. *American Diplomacy in Europe and the Orient. Tu. 10.30-12.30 2

A comprehensive view of American foreign relations and policies respecting the important Powers of Europe and the East, and the relations and influence of the United States in world politics. The attitude and influence of the government in international conciliation and arbitration.

Professor SULLIVAN.

Hours a
week.

10. **Business Law. One hour lecture. Two hours quiz. Lecture Thu. 3. Quiz hours to be arranged 3
Partnership, corporations, bailments and sales of personal property, suretyship and guaranty, decedents' estates, trust estates.

Assistant Professor KING.

11. Legislative and Administrative Problems 2
Two hours throughout the year. Typical problems in administration; practice and procedure in statute making; judicial interpretation of statutes. Omitted in 1917-18.
12. Valuation of Public Utilities. First Term. M. 4-6..... 2
The principles that have been adopted by the courts and public service commissions for determining the valuation of public utilities for rate-making and other purposes.

Assistant Professor PATTERSON.

14. **Public Finance. Both Terms. Two units. M. W. 10.30 or 2 2
A study of public expenditures, revenues, debts, and financial administration. Special attention is given to federal, state and local conditions within the United States, with numerous illustrations from foreign experience. Emphasis on current problems.

XIII. ECONOMICS.

Professor PATTEN, *Chairman*; Professors E. R. JOHNSON, MEAD, J. R. SMITH, S. S. HUEBNER and CONWAY; Assistant Professors G. G. HUEBNER, PATTERSON, ROORBACH; Drs. CRENNAN and WILLITS.

Majors—Economics; Transportation and Commerce; Economic Geography and Industry.

A. ECONOMICS.

Professors PATTEN, MEAD, S. S. HUEBNER and CONWAY;
Assistant Professor PATTERSON.

Professor PATTEN.

1. History of Political Economy. First Term. Tu. Th. 5..... 2
The rise and development of the classical school of

Hours a
week.

- economists, Adam Smith and Ricardo forming the natural center of study. Special attention is given to the sources of Smith's *Wealth of Nations*; and in the latter part of the course, to the interpretation of Ricardo's writings.
2. Recent Development of Political Economy. Second Term. Tu. Th. 5 2
The American economists are carefully studied. Prominence is given to the recent development of the theory of rent, to the theory of marginal utility, to the new aspects of the science resulting from an emphasis of the dynamic causes of social progress, and to recent attempts to substitute consumption for production as the starting-point of investigation and the basis of theory.
3. The Development of English Civilization. First Term. M. W. 3 2
A study in economic interpretation of history, based on English experience for the last three centuries.
4. The New Basis of Civilization. Second Term. M. W. 3 .. 2
A discussion of the physical and economic basis of social progress and of the effects of recent changes in industry and population.
5. Social Reconstruction. Omitted in 1917-18 2
This course is open only to students who have taken courses 1 and 3 or 6.
6. Economic Conference. W. 8 P. M. 2
Topic: New Views of Human Nature. Open to students having taken Courses 1 and 3.

Professor MEAD.

7. **Corporation Finance. M. Th. F. 11.30 3
This deals with the constructive phases of corporation finance; promotion; capitalization; the determination of profits; obtaining of new capital; consolidation; bankruptcy and receiverships, and reorganizations.
- 7b. Restraint of Trade. F. 2-4 2
Development and judicial interpretation of Federal and State laws prohibiting combination in restraint of trade:

leading cases under the Sherman Act examined: growth of manufacturing, treasurers' and railway associations: lawful monopolies: regulation of corporations by Public Service Commission: recent federal legislation on the subject of industrial combination. Lectures, assignments, readings and reports. Two hours. Both terms. Two units.

8. Investments. Th. 10.30, F. 2-4 3

A study of a different type of corporation securities from the standpoint of the investor, first, a general survey of corporation securities and second, the investigation of the application of general principles to the securities issued by public bodies, railroads, public service corporations and industrials.

Professor S. S. HUEBNER.

9. **Brokerage. Tu. 4-6 2

The course consists of lectures and research work in the brokerage of bonds, notes, stocks, money, foreign exchange, cereals, cotton and metals. The student is permitted to carry on special research work along that particular line of the brokerage business which he intends to pursue or in which he is most interested.

11. **Fire, Marine, Surety and Title Insurance. Tu. Th. 9.30... 2

A consideration of (a) business uses; (b) process of rate making; (c) policy contract; (d) various types of policies; (e) state statutes relating to policies; (f) organization and management of the insurance system, and the practice of the business.

12. **Insurance Seminar. Sat. 9.30 1

This Seminar is devoted to a special study of the law and practice of insurance, as well as special problems connected with business.

10. **Life Insurance. Omitted in 1917-18 2

Theory of insurance; uses of insurance and particular uses of various types of policies. The calculation of life insurance premiums. The reserve, distribution of surplus and surrender values. A careful analysis of the policy contract and other forms of insurance.

Professor CONWAY.

Hours a
week.

25. *Panics and Depressions 2

A brief examination of early financial panics and depressions, followed by a more careful analysis of later disturbances. Particular attention is paid to the causes of panics and to phenomena which point to an impending crisis.

26. *Comparative Banking Methods 2

A comparative study of banking methods employed in the United States, England, France and Germany. Particular attention is paid to the current questions relating to improved methods of banking, such as trade acceptances, bank acceptances, financing foreign trade, clearings, and collections. Attention is also given to the methods employed by the leading commercial nations in financing foreign trade with South American countries.

Assistant Professor PATTERSON.

13. Economic Readings. Omitted in 1917-18 2

Reading and discussion of assigned portions of the following works: Adam Smith, *Lectures on Police, Revenue and Arms*, and *Wealth of Nations*; Malthus, *Essay on Population* and *Pamphlets on Corn and Rent*; Ricardo, *Political Economy*; Senior, *Political Economy*; J. S. Mill, *Political Economy*. Some study will be made of the pamphlet literature of each period, and an effort will be made to acquaint the student with the sources from which the leading writers drew their information.

14. Modern Economic Theories. Th. 3-5 2

After a brief statement of the chief doctrines of the Classical School and an examination of the criticism which was directed against the classical economy from various sources, this course will present in topic form the principles of political economy from the modern point of view. The various writers in this country and Europe will be consulted in discussing the theories.

16. Classical Economy and Modern Thought. F. 4.30-6.30..... 2

An introductory course for graduate study of economic theory. Reading and class discussion of the theories of John Stuart Mill and a comparison of his theories with those of modern writers.

TRANSPORTATION AND COMMERCE.

Professors JOHNSON and CONWAY; Assistant Professor G.

G. HUEBNER; Dr. CRENNAN.

Professor JOHNSON.

Hours a
week.

18. Transportation and Corporations. Tu. 3-5 2

The first term is devoted to railway transportation with special reference to government regulation, state and federal. A portion of the second term is given to a study of the policy of the United States towards ocean transportation, but a large share of the work of this term is concerned with the public regulation of corporations, with anti-trust legislation and its interpretation by the Supreme Court. Instruction is partly by lectures, but mainly by the seminary method, each student being supplied with an outline containing references upon the several topics.

19. **Railway Traffic and Rates. M. W. 10.30 2

A study of the traffic, services and rate systems of steam railways. The first term is devoted to the freight service, the second term to the passenger, express and mail services. Text: Johnson and Huebner's *Railroad Traffic and Rates*.

Professor CONWAY.

20. **Electric Railway Transportation. Omitted in 1917-18 2

A course dealing with the traffic and financial problems of City, Suburban and Interurban Electric Railways. The source and character of city traffic, the problems of elevated and subway lines; the capitalization and earnings of city properties; the character of suburban traffic; the possibilities of competition with the steam lines; passenger, freight and express business of interurban railroads; the methods of railway administration, the systems of accounting, and public regulation of electric railways are among the topics considered. Lectures, investigations and assigned readings.

Assistant Professor G. G. HUEBNER.

21. **Railway Administration. M. W. 2 2

The organization and main activities of the several departments of the railway service; financial administration.

Hours a
week.

24. **Ocean Transportation. M. W. 11.30 2
A course dealing with ocean vessels, routes and terminals; freight, passenger and other services; ocean carriers and the public; government aid and regulation.

Dr. CRENNAN.

22. **History and Economics of American Commerce. Tu. Th. 8.30 2
The history of the foreign and domestic commerce of the United States. Special emphasis is laid upon the economic problems connected with American commerce, and upon the development of commercial institutions and commercial policy. Lectures, investigations and assigned readings.

23. **Railway Operation 2
A study of operating conditions and methods of American railroads. The main topics considered are the organization of the operating department, handling of carload and less than carload freight, terminal operations, movement of trains at terminals and on the line, electrification of terminals and line, car efficiency, and labor problems. Lectures, assigned readings and reports.

ECONOMIC GEOGRAPHY AND INDUSTRY.

Professor J. R. SMITH; Assistant Professor ROORBACH; Dr. WILLITS.

Professor SMITH.

28. Geographic Seminar. W. 4 I
A thorough study of the economic geography of some selected district. Lectures on methods of investigation. Critical discussion of students' reports. Open to students who have had preparatory work in geography equivalent to the mastery of the following books: "Industrial and Commercial Geography," by J. R. Smith, and "College Physiography," by R. G. Salisbury or Tarr and Martin.
29. Seminar in Industry. W. 5 I
Seminar in industry. Reports on industrial topics, with especial emphasis on method.

32. The Geographic Environment. Th. 4 1

For students in Economics and Social Sciences and History who have not previously laid emphasis on Economic Geography.

Study of the influence of the factors by which the environment has shaped man's activities. Lectures, discussion, assignments and reports. This course is intended to prepare students for No. 28.

Dr. WILLITS.

30. **Industrial Management. W. F. 8.30 2

A study of shop production, including a survey of the Taylor and other systems of scientific management.

(a) The factory building. Construction, lighting, heating and ventilating.

(b) Shop organization; advantages and disadvantages of functional and military organization.

(c) The planning of work through the shop.

(d) Standards in the factory, including a discussion of time study. Their importance and control.

(e) Examination of various systems of wage payment.

(f) A brief survey of the employment problem.

37. **Personnel and Employment Management. W. 2-4..... 2

A study of the selection and development of the personnel of business organizations. Special attention will be devoted to the methods of choosing and training employees, labor turnover, the work of the factory medical department, and betterment work, and to original investigation by the students.

33. Field Work in Industry. M. 2-4 2

Visits to industrial plants, discussions and papers on the observations made on these inspections.

Assistant Professor ROORBACH.

31. **Economic Geography of Latin America. Tu. Th. 9.30.... 2

A regional study of South and Central America, Mexico, and the West Indies. Physical features, climate and resources influencing industrial, commercial, social and political developments. Commercial relations with the United

Hours a
week.

States, present and prospective. Lectures, assignments and reports.

34. *Field Work in Economic Geography. Hours to be arranged 2

This course aims to give training in the geographic interpretation of a region, obtained by actual first-hand study in the field. A region within easy reach of Philadelphia will be selected for a detailed study of its agriculture, industries and social conditions and of the underlying physical, climatic and other environmental factors that have influenced or determined its present development. Open only to students with the necessary geographic training. Hours to be arranged.

35. **Economic and Political Geography of Europe. W. F. 2... 2

A course on Europe similar to course 31 on South America. A study of geographic conditions influencing the development of nations. Great Britain, Germany and Russia will receive special emphasis.

36. **Economic Geography of the Far East. Tu. Th. 10.30..... 2

A course on Asia similar to courses 31 and 35 for South America and Europe. Detailed study will be given to China, Japan, India and the Philippine Islands.

SPECIAL OPPORTUNITIES FOR RESEARCH WORK.

Philadelphia affords peculiarly favorable opportunities for research work in the economic and social sciences. The business men of the city have given the most generous co-operation in this line of work. In addition to the usual class work, visits are made to the chief commercial and manufacturing enterprises in Philadelphia and the surrounding districts where every branch of productive industry is well represented. Philadelphia is also the terminus of two important railway systems, whose general offices are located in the city. One of these, the Pennsylvania Railroad Company, is the largest railway corporation in the world. Important wholesale interests and large department stores are located in the city. Philadelphia is a great seaport engaged in trade with every part of the world. Every branch of the forwarding business is represented, and the city is also

an important banking, insurance and financial center. The Stock Exchange, the Bourse, the Maritime Exchange, the world-renowned Commercial Museum, and the textile schools, are among the more prominent public institutions founded in aid of trade and commerce. Every phase of financial, industrial and commercial life is illustrated in Philadelphia. The city is a great laboratory for the study of business.

XIV. SOCIOLOGY.

Professor KELSEY, *Chairman*; Professor LICHTENBERGER.

Professor KELSEY.

Hours a
week.

- I. The development of Social Institutions. M. 4-6 2

(a) The biological basis of human society. A sketch of the development of biological knowledge and its effects upon social institutions and theories. Heredity. The significance of race and class differences.

(b) Physical Environment. The meaning of adaptation. Influence of physical world on social development. The control of environment by man. Problems arising out of changing conditions.

(c) Social Environment. The contrast between nature and nurture. A survey is made of the culture of the American Indian and of the North European groups when the latter came into contact with the Roman empire to get a better basis for understanding our own civilization.

(d) The development of our institutions. Review of the history of the family, state, school, courts, and the problems involved. Modern theories as to their functions. Property rights versus personal rights. Anarchy, Communism, Socialism. The advantages and dangers of institutions.

2. Social Debtor Classes. S. II-I 2

A study of the problems of poverty and the public and private agencies which have been developed to care for the needy. The rôles played by vice, disease, moral defects, industrial conditions in producing dependency are discussed. A brief sketch of the development of the poor law is given

Hours a
week.

and the various problems of relief are considered. Constructive social programs are treated at the close of the course.

3. American Problems. Omitted in 1917-18 2

(a) Race Problems. The Negro and the Indian Immigration. A study of the relation of these groups to national life and of the difficulties created by their presence. (First Term.)

(b) Criminology. A survey of the three fields of criminal anthropology, procedure and penology. (Second Term.)

4. Sociological Field Work 2

For special investigation of local social conditions and institutions. Meetings for conference and discussion are assigned.

Professor LICHTENBERGER.

5. Theory of Sociology. S. 9-II 2

History of the development of Sociology from Plato to the present. Philosophical and scientific interpretations. Theory of social origins. Possibilities and progress in the construction of the science of Sociology. General survey of contemporary Sociology as taught in the great universities of Europe and America. The relation of Sociology to social reform.

6. Eugenics and the Family. Omitted in 1917-18 2

The necessity for investigation in the subject. Modern Theories of heredity in relation to Eugenics. Positive and Negative Eugenics. Danger in irrational Eugenic measures and programs.

The study of the origin and evolution of the family. Primitive customs and ceremonies. Theories of Marriage. The family in modern life, causes and remedies for divorce. The stability of the family and the fundamental necessity of its preservation. Present hopeful tendencies. The course is conducted on the seminar method—the preparation and discussion of papers. Students admitted only upon consultation with instructor.

8. Social Origins. W. 4-6 2

A research course devoted to the study of the origin and evolution of primitive ideas and customs in their relation to social life. Among the subjects assigned for the investigation and discussion are: Traits of the Primitive Mind; the Control of Nature; Sympathetic and Imitative Magic; Taboo; Exogamy; Primitive Art; Ornamentation and Decoration; Animism; Totemism; Religious Ideas and Ceremonies; Secret Societies; Myths.

The course will be conducted on the Seminar Plan.

7. Social and Vital Statistics. Omitted in 1917-18 2

This course aims to prepare the student to collect with accuracy and completeness the data, as well as to arrange and make use of the most important material, in the fields of economic and sociological research. Special emphasis is placed on the need for discrimination in the use of statistical data. The more fundamental principles of method are developed in connection with practical problems.

SPECIAL OPPORTUNITIES FOR RESEARCH WORK. _

For the study of sociological questions, Philadelphia offers exceptional opportunities. The city possesses a large number of excellent charitable societies and institutions, schools and asylums for the defective classes, reform schools and penitentiaries, and is the center of various movements for social betterment which offer practical training for social workers.

SEMINAR.

Seminar in Political Science, Economics and Sociology.

The seminar meets upon call of the Chairman for the discussion by the faculty and fellows in Groups XII, XIII and XIV of important political and social topics of general interest. Attendance upon the seminar is required by all students having a major or minor in any subject in this group.

XV. PHILOSOPHY AND ETHICS.

Professor FLACCUS, *Chairman*; Professors NEWBOLD and SINGER; Assistant Professors HUSIK and H. B. SMITH.

Majors—Philosophy.

The courses in Philosophy and Ethics fall into two main divisions—the historical and the critical-constructive. These are again subdivided into two groups—those which presuppose a general knowledge of the history and problems of philosophy and those which do not. The latter are here termed “introductory” courses, the former “advanced.”

I. INTRODUCTORY COURSES.

HISTORICAL.

Professor NEWBOLD.

Hours a
week.

1. *History of Ancient Philosophy. Alternates with 2 and 4.
M. 8-10 2
From Thales to the closing of the schools of Athens. Especial attention is paid to the development of Ontology, Epistemology and Psychology. Lectures, assigned reading, and papers.
2. *Development of Christian Thought. Alternates with 1.
Omitted in 1917-18 2
Based upon the reading in English of the more important documents of the first three centuries. Especial attention is paid to the influence of contemporary philosophy upon Christian thinkers.

Assistant Professor HUSIK.

3. *History of Mediaeval Philosophy, Patristic and Scholastic Periods, to William of Occam 2
Lectures and assignment of papers.

Professor SINGER.

4. *History of Modern Philosophy. Alternates with 1.
Omitted in 1917-18 2
Courses 1 and 4 will deal especially with the development of Method.

Hours a
week.

5. **Philosophy of Nature. First Term. Tu. Th. S. 9.30..... 3
Parallel to 1 and 4, but deals with the history of the
natural sciences.

Professor FLACCUS.

7. *History of Ethical Theory in England. Alternates with 20, 2
Readings in the works of English thinkers from Hobbes
to Mill.

CRITICAL AND CONSTRUCTIVE.

Professor FLACCUS.

8. *Analysis of Ethical Theories. W. 3-5 2
Based on Sidgwick, *Methods of Ethics*.

II. ADVANCED COURSES.

HISTORICAL.

Professor NEWBOLD.

9. Plato. Hours to be arranged. Omitted in 1917-18 2
10. Aristotle. Omitted in 1917-18 2
11. Philosophy and Religion in the Later Age. Hours to be
arranged 2

(9) is based upon the reading in English of all the works
of Plato except the *Laws*. (10) gives a survey of the sys-
tem of Aristotle in lectures following in general the order
of the works in the Berlin edition, with collateral reading
where translations are available. (11) gives a survey of
the syncretistic systems of the first three Christian centuries
(Stoicism, Astrology, Philo, Gnosticism, Mithraism, Her-
metism, Neo-Pythagoreanism and Neo-Platonism) with
special reference to the development of the spiritualistic
idealism of the later Greco-Roman age.

12. Seminar in Aristotle. Hours to be arranged 2

Each year one of Aristotle's works (*Organon*, *Meta-
physics*, *Physics*, *de Anima*, *Nicomachean Ethics*) will be
read in Greek with a detailed discussion of the constitu-
tion of the text and of the problems of interpretation. The
work to be read will be selected by a majority of the
students.

Assistant Professor HUSIK.

Hours a
week.

13. The Philosophy of Thomas Aquinas. Seminar 2
Reading of the *Summa Contra Gentiles* with reference to the Aristotelian and Arabic sources.
14. History of Jewish Philosophy 2
Lectures and papers. Judeo-Alexandrian School, the medieval Aristotelians and Neo-Platonists from Saadia to Joseph Albo.
15. Averroism in the Thirteenth Century in the University of Paris. Seminar 2
A study of the works of Siger of Brabant, and of the anti-Averroistic writings of Albertus Magnus and Thomas Aquinas. Either 13 or 15 will be given in 1917-18.
28. Philosophy of Gau 2

Professor SINGER.

16. Historical Seminary. Spinoza 2

Assistant Professor H. B. SMITH.

17. Historical Seminary. Omitted in 1917-18 2

Professor FLACCUS.

20. The Ethics of Kant and Hegel. Alternates with 7. Omitted in 1917-18 2
Readings, discussions, and papers. Knowledge of German is essential. Some knowledge of Kant's philosophical system is desirable.
22. History of Æsthetics. Second Term. Omitted in 1917-18.. 2
The course traces the development of æsthetic theories in relation to art forms and social and cultural movements. Lectures and sources.
23. Ethics of Ibsen, Tolstoy and Nietzsche. First Term 2

CRITICAL AND CONSTRUCTIVE.

Professor SINGER.

25. Philosophic Theory. W. 7.30-9.30 2
A formulation of the outcome of philosophic studies. Presupposes a knowledge of the history of philosophy.

Assistant Professor H. B. SMITH.

Hours a
week.

24. Modern Logic 2
Courses 17, 24 and 26 may be taken in successive years.
26. Philosophy of Science 2
Topics in the history of the mathematical and physical sciences. In 1917-18: the development of metageometry.

Professor FLACCUS.

27. Problems of Ethics. Second Term 2
Lectures, reports and papers. Formulation and discussion of current problems of ethical theory such as: Aims and methods of ethics, the conception of the good, analysis of moral judgment, varieties of moral experience, pragmatism as a method of ethics, types of virtue and duty, moral progress, etc. Reference will be made to recent ethical literature.

NOTE: The attention of students of Philosophy is especially directed to Professor McDaniel's courses (Latin 4, 5, 6), on Christian Literature and Roman Ethics; to Assistant Professor Hadzsit's (Latin 8, 10) in Roman Stoicism and Epicureanism; to Assistant Professor Babb's (Math. 12), History of Mathematics and to Dr. Moore's (Math. 13). Foundations of Mathematics.

XVI. EDUCATION.

Professor YOCUM, *Chairman*; Professors GRAVES and UPDEGRAFF; Assistant Professors SUHRIE and JONES.

Professor YOCUM

1. **The Beginnings of Educational Thinking. S. 9-11 2
This course emphasizes the practical application of general educational principles to the teaching of ordinary school branches, and embodies the most recent results of the experimental study of educational method. It is planned to meet the every-day needs of elementary and high school teachers, as well as of principals and supervisors from the standpoint of class teaching, and at the same time to give

Hours a
week.

general pedagogical training. General educational principles are developed and analyzed, the conditions under which they are applicable to various special branches discussed, and sufficient application made in special method to exemplify their use.

2. *The Selection and Organization of the Course of Study. Th. 6-8 2

This course involves mastery of the principles and conditions determining the course of study, a study of the relative worth of details within the various school subjects, the organization of the resulting material both from the standpoint of specific preparation for life and mental development, and the comparison and criticism of existing courses of study.

3. **Recent and Contemporary Educational Thinkers. Omitted in 1917-18 2

This course deals mainly with the present leaders of educational thought, but is accompanied by a discussion of educational movements that still exert a direct influence upon educational practice.

5. Educational Research. F. 6-8 2

Individual research and experimentation in special educational method with a view to the inductive determination of principles of general method now deductively based upon psychological data.

6. **Efficiency in Methods of Instruction. S. 11-1 2

This course relates the problems in method to the various forms of mental training and specific social aims, analyzes method into its several factors and discusses the application of each to the economic and efficient teaching of the ordinary school subjects. It is based upon the results of scientific research and prepares the way for further experimentation and the application of its determinations.

Professor GRAVES.

12. *History of Education. S. 1.30-3.30 2

This course traces the evolution of educational institutions and practices and their relationship to present-day educa-

tion. The first term will be devoted to a rapid survey of education before the eighteenth century, and the second term to a more detailed study of the developments in educational organization, content, and method since that time. Lectures and prescribed readings.

13. Educational Classics. Omitted in 1917-18 2

This course is intended to meet the needs of advanced students of educational theory and practice. It consists of a critical discussion of selected topics from the writings of the leading educational thinkers of the past and present and of a consideration of their influence upon educational practice.

14. History of European School Systems. F. 6-8 2

This course traces the evolution of the school systems of Germany, France and England, with special reference to their influence upon the development of the educational system in America.

15. History of Education in the United States. W. 6-8 2

This course deals with the evolution of educational institutions and practices in America during the colonial period and since the formation of the Union. Lectures, readings and investigations.

16. History of Modern Educational Problems. Omitted in 1917-18 2

19. Seminar in the History of Education. Omitted in 1917-18.. 2

This course consists in a critical investigation of topics in connection with dissertation work, lectures, papers and reports.

Professor UPDEGRAFF.

20. *Elements of School Administration. S. 9-II 2

This course includes a consideration (1) of the relation of public educational administration to the administration of other civil affairs in the nation and state, (2) of the modes of organization of state, city and rural educational agencies, and (3) of the practices that now prevail under such central and local forms of organization in the conduct of schools. An intensive study of some subject is required of graduate students.

Hours a
week.

22. *Principles of School Administration. I—Local. Th. 6-8.. 2

The purpose of this course, which is intended primarily for graduate students who have had considerable experience in teaching and supervision, is to give the student a point of view and such a body of working principles as will give him a method for the determination of problems arising in administration of local school systems. Current practice is criticized in the light of these principles, the better types of procedure emphasized, and the unsolved problems indicated. A special study of one topic involving research is required. In the choice of these topics effort is made to find those which will be immediately helpful to those students who are teaching. Prerequisite, Education 20, or adequate experience. Lectures, assigned readings, discussions, research studies and reports.

24. *Principles of School Administration II—State and County. Omitted in 1917-18 2

The purpose of this course is to study the organization and functions of the more central or state and county agencies in public educational administration. A special study of some one topic involving research is required. The weekly preparation required for this course may be made almost entirely at home through texts and available reference books. Prerequisite, Education 20, or adequate experience, unless special exemption is made. Lectures, assigned readings, discussions, research studies and reports.

25. Advanced School Administration. Omitted in 1917-18..... 2

This course deals with the principles and methods of determining the administrative efficiency of a school or school system, particularly through the use of statistics and the measurement of the product of instruction by means of tests and scales. After the essentials of scientific measurement as applied in the field of education have been grasped, the use that has been made of such methods in recent surveys of city school systems and in special monographs are studied. Special attention to one field of investigation for the purpose of thorough mastery of what has been done in it, is expected. Studies of problems under actual school

Hours a
week.

conditions will be made when possible. Prerequisite, Education 22. Lectures, assigned readings, discussions and reports.

29. Seminar in Educational Administration..... 2

This course is for students who, having taken one or more courses in educational administration, desire to pursue studies involving research. Individual conferences and supervision of study will be given upon Saturdays between 11 and 1 and 2 and 4. Reports upon investigations to the entire group will be made at hours to be arranged.

Assistant Professor SUHRLE.

30. *Rural School Problems. M. 7-9 2

This course is offered for the benefit of county superintendents, assistant county superintendents, township and union district school supervisors, principals of union and consolidated schools and teachers who desire to become leaders in the movement for rural school betterment. Such general topics as the following will be emphasized: Recent changes in rural life conditions and the changing function of rural social institutions, especially the rural school; rural life needs and the rural school's readjustment of plant, equipment and curriculum to meet these needs; the new teacher and the newer types of supervision, organization and maintenance of the rural school. Lectures, reports and conferences.

Assistant Professor JONES.

43. *The Secondary School. S. 11-1 2

This course deals with the origin, development, present status and organization of secondary education in America. Problems connected with the teaching staff, the pupil, the organization and the curriculum will be investigated and discussed.

41. Advanced Course in Secondary Education 2

An intensive study of certain phases of Secondary Education. Among the topics considered will be supervised study,

Hours a
week.

methods of marking, socialization of the school, educational guidance, and student activities. Lectures, readings and investigations. Each student will be expected to undertake some topic for investigation. Hours to be arranged.

42. *The Junior High School 2

This course deals with the organization of the Junior High School: its purpose and the principles underlying the different plans in operation. An intensive study will be made of the curriculum: the purpose and value of each subject will be discussed from the standpoint of social and individual needs. A definite study of methods of instruction in the Junior High School will be made: experts in different subjects will be called in to discuss methods in each subject.

XVII. PSYCHOLOGY.

Professor WITMER, *Chairman*; Professor TWITMYER;
Assistant Professors *URBAN and MAXFIELD;
Dr. MITCHELL, Dr. REITER.

The Psychological Laboratory and Clinic comprises a lecture room equipped for use as a general laboratory; a seminar and reading room, in which is kept the department library containing all the psychological periodicals; a workshop for the manufacture of apparatus; a photographic dark room; and rooms equipped for research and the clinical examination of children. The laboratory shop permits the manufacture of special apparatus required by research workers.

The courses in psychology are planned to equip students, not only for research work and for an academic career, but also for professional service as clinical psychologists and for special training in the application of psychology to education, social service, and medicine. Students interested in mental pathology may attend and receive credit for courses in the medical department on nervous and mental diseases and neuropathology.

*Absent.

The courses in psychology fall into three general groups: (a) the Systematic Courses; (b) Lecture Courses, and (c) Advanced Courses. For a minor in psychology six courses are required; for a major at least twelve courses. Students offering psychology as a major may offer as minors (1) Child Psychology; (2) Clinical Psychology; (3) Mental Pathology, or (4) Psycho-Physics.

NOTE: Courses marked thus "S. S." are given in the Summer School also.

THE SYSTEMATIC COURSES.

Hours a
week.

1. **General Psychology. S. S. First Term. Tu. 2 or S. 10.
One course 3
An outline of the psychology of sensation and perception, memory, attention and association. One hour lecture and two hours laboratory work.
61. Mental Analysis A. S. S. First Term. F. 4. One-half course 2
A laboratory course on imagination and thought supplementing Psychology 1.
2. **Mind and Body. S. S. Second Term. Tu. 2 or S. 10.
One course 3
The nature of voluntary, automatic and reflex movements, inherited instincts and acquired habits, impulse and emotion; the structure and functions of the human nervous system. Dissection of the human brain and experimentation upon voluntary and reflex movements. One hour lecture, and two hours laboratory work.
62. Mental Analysis B. S. S. Second Term. F. 4. One-half course 2
A laboratory course on mental traits, supplementing Psychology 2.
3. **Genetic Psychology. S. S. First Term. M. 2 or S. 10.
One course 3
Prerequisite, Psychology 1, 61, 2 and 62. Development and organization of the individual mind. Sensory after-

Hours a
week.

images; memory image; the development of ideas, the intellect and reason. One hour lecture, and two hours laboratory work.

4. **Behavior. S. S. Second Term. M. 2 or S. 10. One course 3

Prerequisite, Psychology 3. Problems connected with human behavior; the relation of instincts to the emotions and the will; the control of attention and the growth of the personal will. Experimental study of habit, fatigue, co-ordination, and the physiological accompaniments of feeling, employing such instruments as the ergograph and plethysmograph. One hour lecture, and two hours laboratory work.

51. Qualitative Analysis A. S. S. First or Second Term. One course 3

Laboratory course on sense perception, particularly optical. Color mixture, color contrast, after-images and perimetry. Text-book: Titchener's *Qualitative Manual*. This course supplements Psychology 1 or 2, with more advanced experimentation.

52. Qualitative Analysis B. S. S. First or Second Term. One course 3

Prerequisite, Psychology 1 or 51. Experiments on visual and space perception. The stereoscope and pseudoscope. Text-book: Titchener's *Qualitative Manual*.

This course supplements Psychology 1 or 2, with more advanced experimentation.

53. Memory and Association. First Term. Hours as arranged. One course 3

Prerequisites, Psychology 1 and 2. Study of the memory process with especial reference to the experimental work of Ebbinghaus, free and controlled association of ideas and the higher thought processes.

54. Intelligence and Efficiency. Second Term. Hours as arranged. One course 3

Prerequisites, Psychology 1 and 2. Selected problems in educational psychology intended to introduce the student to current methods of testing and grading individual intelligence and efficiency.

LECTURE COURSES.

Hours a
week.

To enter any of these courses for credit, the student must have had Courses 1 and 2, or their equivalent.

5. **Abnormal Psychology. Omitted in 1917-18.
9. **Comparative Psychology. Second Term. Tu. and Th. 9.30. One course 2
The nature and criteria of consciousness; the evidence of behavior; methods of learning; sense perception; instincts, memory, imitation, and attention in man and the lower animals.
10. **Evidence. Second Term. Tu. and Th. 9.30. One course.. 2
The uncertainty of human testimony as revealed by the analysis of perception, memory, and reason; the role of prejudice and feeling in determining statements of fact; the distinction between fact and opinion; scientific method; the nature of proof; the value of theory; the nature and function of belief.
11. **Child Psychology (A). Infancy and childhood. First Term. S. 9. Half course 1
Physical and mental development of the child from conception to puberty. Influences of heredity and environment. Instinctive activities, the formation of habits and the various stages of the learning process.
12. **Child Psychology (B). Adolescence. Second Term. S. 9. Half course 1
The problems of the adolescent period as related to childhood and maturity. The rise of new instincts and emotions, the development of self-consciousness and social traits, as determining the growth of interests and an outlook upon life.
13. **The Exceptional Child. First Term. S. 10. One course.. 2
14. **Training and Treatment of the Exceptional Child. Second Term. S. 10. One course 2

ADVANCED COURSES.

To enter any of these courses for credit the student must have had Psychology 1, 61, 2, 62, 3, 4, and either 51, 52, 53, or 54.

Hours a
week.

30. *The Psychological Clinic (A). S. S. First or Second Term. S. 10-1. One course 3
Lectures based on the examination of different types of backward, feeble-minded, delinquent and other exceptional children. Particular attention is given to borderline cases and the treatment of mental peculiarities, rather than to obvious feeble-mindedness requiring institutional care. Lectures deal with classification, diagnosis and education of exceptional children; causes of mental deficiency and retardation; and the functions of the Psychological Clinic.
31. *The Psychological Clinic (B). S. S. First or Second Term. S. 10-1. One course 3
This course is the same as Psychology 30 and is offered to enable students to repeat the course for credit.
32. *Orthogenic Methods (A). Hours as arranged. One course.
33. *Orthogenic Methods (B). Hours as arranged. One course.
Prerequisite, Psychology 32.
34. Mental Defects. Both Terms. Omitted in 1916-17. One course 1
35. *Orthogenics. Summer session only. One course..... 1
The methods of restoring mental deviates to normal conditions. A consideration of the educational methods as well as the environmental conditions which favor normal development.
36. *Social Factors of Juvenile Efficiency. Summer session only. One course..... 1
A general survey of environmental conditions favoring individual and social efficiency, prevention of waste in education, social aspects of mental deficiency, retardation and arrested development, vocational inefficiency, juvenile delinquency, and crime.
40. Psychophysical Theories A. Both Terms. Double course.. 2
This course with Psychology 41 and 42 constitutes a three-year cycle of lectures, in which the different fields of psychophysics are treated. The topic to be selected depends on the needs and preparation of the students electing the

course. Special attention is given to those fields in which scientific activity in recent years has been greatest. The purpose of these lectures is to introduce the student to the latest research and keep him abreast of the scientific movement.

41. Psychophysical Theories B. Both Terms. Double course.. 2
See description under Psychology 40.
42. Psychophysical Theories C. Both Terms. Double course.. 2
See description under Psychology 40.
43. Statistical Methods. Both Terms. Double course..... 2
A course of practical training in the statistical and graphic methods of presenting results. This seminar is limited to students who have been admitted to candidacy for the degree of Doctor of Philosophy presenting psychology as a major subject. No thesis in psychology for this degree will be considered unless the student has had this course or its equivalent.

LABORATORY COURSES.

59. *Clinical Tests and Measurements. S. S. Both Terms.
One course 2
Anthropometric measurements and mental tests of various kinds, including the Binet system. The methods of psychological analysis. These more simple tests will be supplemented by experiments with the chronoscope, ergograph, and other apparatus, in order that the students may become familiar with the use and value of instruments of precision in finer and more accurate diagnosis.
60. Clinical Field Work A. S. S. Hours as arranged. One
course 4
Investigation of cases from the Psychological Clinic and University Hospital Dispensaries, including moral cases such as truants, incorrigibles and other delinquents. May be taken four hours weekly for a year, eight hours weekly for a term, or twenty hours weekly for six weeks. Students desiring additional work may enter either simultaneously or successively Psychology 70, 71, 72 and 73.

Hours a
week.

63. The Learning Process. First or Second Term. Hours as arranged. One course..... 3
An advanced course on the association processes involved in learning.
64. Psychophysiology of Feeling. First or Second Term. Hours as arranged. One course..... 3
Experimental methods for the analysis of feeling; sphygmographic and plethysmographic curves; theories of plethysmograms; galvanometric experiments; the study of other physiological functions influenced by feelings.
65. Psychometry. First or Second Term. Hours as arranged. One course 3
This is an advanced course on the time measurements of mental processes.
66. Psychophysics. First or Second Term. Hours as arranged. One course 3
Advanced course in psychophysical experimentation.
67. Clinical Methods A. S. S. Both terms; also summer session. Hours as arranged. One course..... 2
For advanced students who must prove themselves competent to conduct examinations in the Psychological Clinic. Students desiring additional work may enter either simultaneously or successively Psychology 68 and 69, but if three courses are taken, one must be in clinic for speech defects. Prerequisites, Psychology 31, 59 and 60.
68. Clinical Methods B. Hours as arranged. One course..... 2
See description under Psychology 67.
69. Clinical Methods C. Hours as arranged. One course..... 2
See description under Psychology 67.
70. Clinical Field Work B. Hours as arranged. One course.. 4
See description under Psychology 60.
71. Clinical Field Work C. Hours as arranged One course.. 4
See description under Psychology 60.
72. Clinical Field Work D. Hours as arranged. One course.. 4
See description under Psychology 60.

Hours a
week.

73. Clinical Field Work E. Hours as arranged. One course.. 4
See description under Psychology 60.
99. Individual Laboratory Work. One course or more. Hours
as arranged.

For advanced students who are competent to carry on original research, which may be either laboratory experimentation, or such investigations as may be conducted upon children in the school room.

XVIII. MATHEMATICS.

Professor CRAWLEY, *Chairman*; Professors FISHER, SCHWATT, HALLETT and GLENN; Assistant Professors SAFFORD, BABB, CHAMBERS, MITCHELL and MOORE; Dr. BEAL.

Candidates for the degree of Ph.D. whose major subject is Mathematics may elect one or both minors in Mathematics also. Such students are advised, however, to elect one minor in Physics or Astronomy. Any of the members of the Group Committee will be glad to advise with students in planning their work so as best to accomplish the particular object in view in each case. Students are especially advised not to undertake an unduly large number of lecture courses at one time. The place for graduate study is the library rather than the lecture room. The most that can be done in the lectures is to guide the student into a general acquaintance with the principles of a subject, and it remains for him to broaden his knowledge and develop the details by extensive reading and private study.

The current numbers and complete files of all the leading mathematical periodicals are found in the Library, as well as the standard treatises in all departments of mathematics.

The courses offered fall under three general divisions, Geometry, Algebra, and Analysis, and a student should have some acquaintance with each of these fields. Attention is especially directed therefore to the following courses: (1) Either Modern Analytic Geometry (Course 1), or Synthetic

Hours a
week.

Projective Geometry (Course 11); (2) Introduction to Modern Higher Algebra (Course 5); and (3) Theory of Functions of a Complex Variable (Course 3).

As these courses form, more or less, the necessary foundation for more advanced and specialized courses, students are urged to take them as early as possible in their graduate work.

Each candidate for the degree of Ph.D. is expected to make one or more reports before the Department on the subject of his dissertation.

Each candidate for the degree of A.M. is expected to do seminar work in connection with one of his courses. The student should announce to the instructor his intention to do this work at the beginning of the University year.

The following courses are offered in the year 1917-18:

Professor CRAWLEY.

15. Higher Plane Curves. Tu. Th. 3 2

This course presupposes some knowledge of the processes of modern analytic geometry, i. e., of homogeneous co-ordinate systems. The general descriptive properties of higher plane curves are discussed, and some attention is given to metric properties. The properties of cubics and quartics are taken up in some detail.

Professor FISHER.

26. Theory of Functions of a Complex Variable. Second Course. W. F. 4 2

Professor SCHWATT.

20. Infinite Series and Products. M. Th. 4 2

Professor HALLETT.

7. Theory of Groups of a Finite Order. Tu. Th. 2 2

Assistant Professor SAFFORD.

24. Partial Differential Equations. S. II-I 2

Hyperbolic functions. Orthogonal families of curves and surfaces. The derivation of some familiar partial differential equations. Functions defined by differential equations. The geometry of reciprocal radii.

Assistant Professor BABB.

17. Theory of Numbers. First Course. F. 3, S. II 2

Assistant Professor CHAMBERS.

11. Synthetic Projective Geometry. M. W. 3 2
 Collineations of two, three and four dimensional forms.
 Conic sections. Isomorphism of number systems to pencils
 of one dimensional forms. Geometric constructions.

Professor GLENN.

23. Calculus of Variations. Second Term. Tu. Th. 4 2
 Lectures on the general theory, including modern develop-
 ments, with applications.

Assistant Professor MITCHELL.

29. Theory of Algebraic Numbers. F. 3, S. II 2
 This course is intended for students who have some fam-
 ilarity with the theory of numbers. Those beginning the
 subject should take Course 17.

Assistant Professor MOORE.

13. Foundations of Mathematics. M. W. 3 2
 The theory of positive integers as a basis for analysis.
 Rigid motion and correspondence with a number manifold
 as factors in determining the properties of space. Metrical
 and non-metrical spaces. A critical study of inter-relations
 between different systems of axioms.

Dr. BEAL.

16. Differential Geometry. M. W. 4 2
 The application of the differential calculus to the geom-
 etry of twisted curves and surfaces.

Arrangements will be made to give the following courses
 if a sufficient number of students apply for them:

3. Theory of Functions of a Complex Variable. (First
 Course.)

5. Introduction to Modern Higher Algebra.

The following additional courses have been given recently, and it is the intention of the Group Committee to repeat them :

1. Modern Analytic Geometry.
4. Theory of Functions of a Real Variable.
6. The Galois Theory of Algebraic Equations.
10. Theory of Invariants.
12. History of Mathematics.
14. Continuous Groups.
22. Higher Calculus.
25. Mathematical Theory of Elasticity.
27. Synthetic Projective Geometry. (Second Course.)
28. Elliptic Functions.

XIX. ASTRONOMY.

Professor ERIC DOOLITTLE, *Chairman*; Assistant Professor
BARTON.

Professor DOOLITTLE.

Hours a
week.

2. The use and adjustment of the Equatorial, Asteroid, Cometary, Satellite and Double-star observations. First Term.
W. 9. Th. 10..... 2
This course is based upon Chauvenet, *Spherical and Practical Astronomy*.
4. Practical Astronomy. Second Term. Wed. 9. Th. 10..... 2
Spherical coördinates, parallax, refraction, time, latitude, longitude, azimuth, occultations, precession, nutation, aberration, stellar proper motion, theory of astronomical instruments. Observatory practice.
This course is based upon Doolittle, *Practical Astronomy*, and Chauvenet, *Spherical and Practical Astronomy*.
5. Theoretical Astronomy (*b*). Th. 10-12..... 2
Special and general perturbations, numerical differentiation and integration, correction of the elements of orbit with application of the method at least squares to determine the most probable system. Computation of planetary tables.

- Le Verrier, *Annals de l'Observatoire de Paris, Vols. I and II*, and Tisserand, *Mécanique Céleste*.
6. Astronomical Seminary. F. 10..... 1
Investigation of special problems.
7. Secular Perturbations. M. 11-1, W. 11-12..... 3
The general equations by Jacobi's method. Gauss's method as developed by Hill, Halphen, Callandreaux and Louis Arndt. Lectures, with reference to the original memoirs.
8. Celestial Mechanics. S. 10..... 1
Application of Lagrange's and Hamilton's *Canonical Forms* and of Jacobi's *Equations*. Jacobi's *Vorlesungen über Dynamik*; Tisserand, *Mécanique Céleste*, and Appell, *Traité de Mécanique Rationnelle*.
9. Observatory Practice. Six hours. Two-unit course.
NOTE.—The observatory, equipped with an 18-inch equatorial telescope, and other instruments of the latest and most approved design, offers every facility by which students may familiarize themselves with the practical details of astronomical work.

Assistant Professor BARTON.

1. Method of Least Squares, historically and practically considered. First Term. M. Th. 10..... 2
3. History of Astronomy. Second Term. Tu. Th. 9..... 2
Lectures accompanied by reading and seminary work.
10. *Theoretical Astronomy (a). Tu. 9-11; F. 9..... 3
Integration of general equations of motion in case of two bodies. Determination of the parabolic, elliptic, or hyperbolic elements from three and from four complete observations. Computation of ephemerides. This includes a practical determination of the undisturbed elements of the orbit of a comet or planet. Oppolzer, *Bahnbestimmung der Planeten und Kometen Band I*. (French Translation.) Leuschner's Method of Computing Orbits.

XX. PHYSICS.

Professor GOODSPEED, *Chairman*; Professor RICHARDS;
Assistant Professors BARKER, ECKHARDT, KABAKJIAN
and HARKINS; Dr. BOEHM, Dr. STUHLMANN and Dr.
BOHJELIAN.

Major—Theoretical and Experimental Physics.

Minor—Work equivalent to six standard courses, one-third
of which should be laboratory work.†

NOTE.—All courses in Physics are given in the Randal
Morgan Laboratory, consisting of two buildings devoted
exclusively to this science.

The laboratory is well equipped for all routine work, and
every endeavor is made to keep well abreast of the times
in special work. To this end no effort is spared in making
it possible for graduate students to pursue work along such
special lines in which they may be thought most competent.

The hours indicated are tentative only. The courses
marked as omitted may be given if the needs of the students
applying require it.

Professor GOODSPEED.

Hours a
week.

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| 7. Theoretical Dynamics | 2 |
| 9. Theory of the Potential Function. Second Term | 2 |

Includes a discussion of the law of gravitations; the de-
velopment and application of the equations of Laplace,
Poisson, Gauss, Green and others.

Courses 18 and 9 are introductory to the other courses and
are intended to be taken in sequence.

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| 25. Theoretical and Practical Radiography. Laboratory. One
course | 3 |
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Professor RICHARDS.

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|---|---|
| 1. Constitution of Matter. First Term. Tu. W. 4-5.30..... | 3 |
|---|---|

A review of the older atomic theories, a discussion of the
methods of determining molecular magnitudes and a de-
velopment of the electron theory.

†Three hours of laboratory work per week for one year are equivalent to
one standard course.

2. Radiation. Electromagnetic Theory of Light. Omitted in 1917-18 3
 Development of the equations of the electromagnetic field, application to problems of reflection and refraction, interference and diffraction. Crystalline optics. Application of the electron theory to problems of dispersion and the optical properties of metals. Magneto optics. Application of thermodynamics to problems of radiation. Laws of Kirchhoff, Stefan, Wien and Planck.
10. Theory of Sound. One Term..... 2
 Topics in the mathematical theory of sound, mainly selected from Rayleigh's "Theory of Sound."
11. Application of Harmonic Series to Physical Problems. M. W. 3, Th. 9 3
 The differential equation of the flow of heat in electricity is first established. Solutions are found successively by the use of Fourier's series and integrals, spherical harmonies and Bessel functions. The properties of these functions are investigated. The course follows principally Byerly's "Fourier's Series."
18. Introduction to Mathematical Physics. First Term. W. F. 3..... 2
 The formulation of physical problems by means of differential equations. Applications of vector analysis. Line, surface and volume integrals. Theorems of Gauss, Stokes, Green. Curvilinear coördinates. Use of imaginaries. Conjugate functions. General dynamical equations of Legendre and Hamilton. Principle of least action.
 See note under Course 9.

Professors GOODSPEED and RICHARDS, and Assistant Professor ECKHARDT.

3. Practical Spectroscopy. Laboratory. W. 2-5. One course.. 3
6. Absolute Physical Measurements. Laboratory. Tu. Th. F. 2-5. One to three courses.....3 to 9
12. Seminary. Discussion of special subjects and journal analysis.

Assistant Professor ECKHARDT.

Hours a
week.

24. Chemical Physics 2

The physical properties of the elements in their relations to the periodic system. The metals and a few simple characteristic alloy systems. Selected topics concerning relations between physical properties and chemical constitution. An elementary knowledge of Thermodynamics, is prerequisite.

Assistant Professor BARKER.

5. Theory of Heat. Second Term..... 2
 8. Thermodynamics. First Term..... 2
 29. Thermoelectricity. One Term..... 2
 30. Hydrodynamics. One Term..... 2

Assistant Professor KABAKJIAN.

32. Radio-activity. First Term 2
 33. Radioactive Measurements. Laboratory Work. Second Term 3

Assistant Professor HARKINS.

21. Theory of Alternating Currents. Second Term..... 2
 Mathematical treatment of electric circuits containing resistance, self-inductance and capacity.

Dr. BOEHM.

31. History of Physics. Second Term..... 2

Dr. STUHLMANN.

34. Theory of Electricity and Magnetism 2

Dr. BOHJELIAN.

35. The Generalized Coördinates of Mechanics 2

This course will include the treatment of Lagrangian, Hamiltonian and Jacobian Equations of Motion, the prerequisites being Differential Equations, Partial Differential Equations and Higher Calculus.

XXI. CHEMISTRY.

Professor EDGAR F. SMITH, *Chairman*; Professors SHINN and TAGGART; Assistant Professors McCUTCHEON and LUKENS; Dr. HARNED.

Majors—Inorganic Chemistry; Organic Chemistry; Electro-chemistry.

Minors—I. Courses 1 and 8, with laboratory work, six hours.

2. Courses 3 and 5, with laboratory work, six hours.

Professor EDGAR F. SMITH.

Hours a
week.

9. History and Theories of Chemistry. Tu. 10.30 1

This course of lectures aims to give a résumé of the development of chemistry from the earlier times to the present day.

The theories of the ancients, the Arabians and alchemists are first discussed. The views of Stahl and his school and the work of Lavoisier are then considered and a brief biography is given of all the more important workers in the chemical field.

The second part of the course is devoted to the progress of theoretical chemistry during the nineteenth century. The atomic and molecular hypotheses, the development of ideas regarding the behaviors of substances in solution as well as affinity, valency, equilibrium and the systematic arrangement of the elements are described in some detail, while the more modern tendencies of chemical thought are outlined.

2. Electro-chemistry. Th. 9.30 1

The gradual historical development of this domain of chemistry is traced. The practical discoveries in the earliest years are fully noted. The several theories receive ample consideration and then follow the applications of the current to analysis, to organic chemistry, to applied inorganic chemistry and to the preparation of substances at high temperatures. The salient points developed in these lectures are demonstrated by a series of problems in the electro-chemical laboratory, which is fully and admirably appointed and equipped for this special purpose.

Hours a
week.

- 3a. Mineral Analysis. First Term. M. 8.30 I

This course embodies a personal experience of years in the complete analysis of a definite number of minerals representing the families of sulphides, sulpho-salts, oxides of various kinds, carbonates, silicates with the many and various constituents which have been observed in them, tungstates, molybdates, columbates, tantalates, the rare earths, tellurides, selenides, etc., supplemented with actual laboratory instruction in the same.

- 3b. Determination of Atomic Weights. Second Term. Alternate years. M. 8.30 I

The importance of practical study of these constants is dwelt upon. The steps pursued through more than a century of effort in this direction are traced. The methods of attacking the many problems in this particular domain of the chemical world are exhaustively studied. The results of masters in this field are made special subjects of thought and discussion. Since, in this laboratory, studies have been conducted upon the atomic weights of antimony, arsenic, cadmium, mercury, molybdenum, columbium, nitrogen, palladium, selenium, silver, tungsten, etc., there is excellent opportunity for practical work in this highly important field of research.

4. Seminar. F. 8.30 I

10. History of Chemistry in America. Second Term. M. 9.... I

The purpose of this course is to place before students what Americans have done in chemistry. The coming of Joseph Priestley to America (1794) seems to have developed and stimulated a deeper interest in the science, and as the course of its growth in certain centers is followed, unmistakable evidences of noteworthy investigations are found which should be the property of every student of the science in this country. Such study also reveals that the earlier chemists of the country contributed very materially to the theoretical questions of the day as well as to the utilitarian expansion and application of the fundamentals of chemical science.

Professor SHINN.

Hours a
week.

5. Industrial Chemistry. W. 10.30 1

This course is intended to render the student somewhat familiar with chemistry as applied to industrial problems. It consists of a series of lectures, one hour a week for two years, upon type industries, discussing methods of preparation and purification of the more important substances. The lectures are supplemented by numerous excursions to manufacturing establishments when the actual working out of these processes may be seen.

The manufacturers in and around Philadelphia are particularly cordial in receiving the classes into their works, thus affording unusual advantage to students along this line.

6. Analytical Chemistry. Tu. 9.30 1

Lectures, one hour a week, describing approved gravimetric and volumetric methods of analysis of metals and acids, together with the more important separations.

11. Inorganic Preparations. First Term. M. 9.30 1

A systematic consideration of type elements and compounds, illustrating the methods of preparation of the types and the special details required for individual cases.

Professor TAGGART.

7. Organic Chemistry. M. 10.30, F. 10.30 2

An advanced course intended for those who have completed the general course. It consists of systematic lectures extending through two years, and pays special attention to the historical development, recent theories, and important applications of the compounds of carbon. A reading knowledge of German is required, since frequent reference is made to the original literature.

Laboratory work in the synthesis and analysis of compounds is required.

Excellent facilities are offered for original investigations.

Dr. HARNED.

8. Physical Chemistry. Tu. 11.30 1

The lectures extend through two years. In these, a detailed account of the most important physico-chemical devel-

Hours a
week.

opments, such as theoretical electro-chemistry and theory of solutions, is given.

The laboratory work offers the student an opportunity to familiarize himself with the more advanced physico-chemical measurements.

Assistant Professor McCUTCHEON.

1. Advanced Inorganic Chemistry. W. 8.30, F. 10.30 2

This course assumes that the student has made himself familiar with the elements of the subject by study of standard text-books relating thereto and with this as a basis the course develops the elements according to their arrangement in the periodic system. It aims to make as complete a comparative study of them and their derivatives as is possible. Methods of preparation are fully discussed and the consideration of constitution comprises a very important chapter in the presentation. Careful attention is paid to the physical constants and methods for determining the same. The practical work in conjunction with these lectures consists in the preparation of a rather extended series of typical compounds which involve a study of method, behaviors and purity.

Assistant Professor LUKENS.

12. Chemistry of the Rarer Elements. M. 10.30 1

Experimental demonstrations intended to familiarize the student with the properties of these elements and their compounds.

The above schedule comprises mainly lecture courses. Much practical work is given in connection with all but Courses 4, 5, 9 and 10. This is carried on in the John Harrison Laboratory of Chemistry, which is thoroughly equipped for graduate study. After the student has received that training in the several departments of Chemistry which will give him a broad outlook in the science, and has displayed evidence of ability to follow research under guidance, he may be permitted to undertake investigation in his major subject (or in a minor topic if approved by the chairman of the Group Committee). Special research rooms are set apart for advanced students. They have also for use all

modern apparatus necessary for the application of physico-chemical methods, for gas analysis, and for spectroscopy. The opportunities offered for thorough drill in practical electro-chemistry are had in laboratories especially arranged for this branch of chemical science. The rarer elements receive more than ordinary attention.

XXII. GEOLOGY AND MINERALOGY.

Professor A. P. BROWN, *Chairman*; Assistant Professor EHRENFELD; Dr. TRAVIS.

Majors—Geology; Mineralogy.

A. GEOLOGY.

Professor A. P. BROWN.

1. Historical Geology. Lectures upon the earth's history and development as recorded in the rocks; including the classification, characteristics and distribution of the various geological formations, particularly those of America and Europe; the changes and distribution of land and sea during successive geological times, and the development of surface topography, with a history of the progress of animal and plant life upon the earth. The laboratory work consists of the study of maps and specimens in the Historical Geological collection illustrative of the lectures. One hour lecture, four hours laboratory. S. 9. Three courses.

Dr. TRAVIS.

2. Petrography. Lectures upon the optical characteristics of the rock-forming minerals, the classification of rocks and their petrographic characters as exhibited in thin sections; with laboratory practice in the preparation and study of rock sections. One hour lecture, four hours laboratory. S. 9. Three courses.

Assistant Professor EHRENFELD.

3. Physical Geology and Physiography. Lectures, laboratory experiments, assigned reading and extra field work in dyna-

namic and physiographic geology. Special problems of physiography may be assigned for the course of lectures in any one year. Two hours lectures, two or more hours laboratory. Three or more courses. For hours consult professor in charge of course.

6. Stratigraphic Geology. The nature and origin of sediments, the principles of correlation, etc. The study in detail of the stratigraphy of a particular geological period. Two hours lecture. Two courses. For hours consult professor in charge of course. Omitted in 1917-18.
7. The Contact of the Sea. The study of the ocean waters and basins; life conditions on the sea. The nature of land and ocean contact in its various phases is considered. Two hours lecture. Reading and conferences. For hours consult professor in charge of course.
8. Seminar. Equivalent of two hours per week. Time arranged to suit convenience each year.

Professor A. P. BROWN.

4. Metamorphism. Lectures upon the metamorphic changes that take place in rocks, with preparations of rock sections and petrographic study of metamorphosed rocks. One hour lecture, four hours laboratory. One Term. W. 12. Two courses.
5. Paleontology of the Invertebrata. Study of representative types of fossils of the different groups of invertebrates in the zoölogical collection of fossils. Laboratory, five hours. Two and a half courses. The hours for this course are arranged to suit the roster of each student.

B. MINERALOGY.

Dr. TRAVIS.

1. Mathematical and Physical Crystallography. Lectures upon the morphology and physical properties of crystals, with laboratory practice in the use of instruments for measurement of crystals and determination of their physical con-

- stants. Two hours lecture, four hours laboratory. For hours consult professor in charge of course. Four courses.
3. Determinative Mineralogy. Laboratory practice in determination of mineral species by the use of the blow pipe and chemical and physical tests. Four hours laboratory. For hours consult professor in charge of course. Two courses.

Professor A. P. BROWN.

2. Systematic Mineralogy. Lectures upon the classification of minerals with descriptions of the characters of the different species and laboratory study of specimens in the mineralogical museum. Two hours lecture, two hours laboratory. Tu. Th. 10-1. Two courses.

The laboratory hours are the minimum required for minor work. Students taking Geology or Mineralogy as a major spend more time in laboratory work than noted above.

All students in Mineralogy and Geology are expected to participate in the occasional field excursions, in addition to such field work as may be assigned to students taking major work in this group.

In the laboratory courses, the study from specimens is carried on in the mineralogical and geological museums. Other practical work is done in the mineralogical laboratory, which is supplied with instruments and appliances for advanced work in the subjects embraced in this group. Power machines are provided for slicing and grinding minerals and rocks; the laboratory is equipped for the chemical and physical examination of minerals and rocks; the goniometer room is provided with apparatus for work in mathematical and physical crystallography; the dark-room is arranged for photographic work, including photomicrography. In the Library will be found the works and journals on Geology and Mineralogy most frequently consulted by the student; while, in addition, the Museum is supplied with those works of reference necessary for the courses in practical Geology, Paleontology and Mineralogy. Students needing special preparation in chemical analysis are expected to take such preparatory work in the department of chemistry.

XXIII. BOTANY.

Professor MACFARLANE, *Chairman*; Professors HARSHBERGER and DAVIS; Dr. STECKBECK.

Majors—Morphology and Physiology; Taxonomy and Distribution.

Professor MACFARLANE.

10. Comparative Morphology of the Angiospermia. Two hours lecture, four hours laboratory and seminary work. Four courses.† M. 3-6. Omitted in 1917-18.
11. Comparative Taxonomy of Angiospermia. Two hours lecture, four hours laboratory work. M. 3-6. Four courses.†

Professor HARSHBERGER.

4. *Forest Botany. Plant Distribution and Ecology. One hour lecture, two hours laboratory work, one hour seminar. Three courses.
12. Morphology and Taxonomy of the Myxomycetes and Fungi, with cultural methods. One hour lecture, five hours laboratory and seminary work. M. 3-6. Four courses.†

Professor DAVIS.

8. *Plant Genetics. One hour lecture. M. 11.30-12.30. One course.
9. Plant Cytology. One hour lecture, four hours laboratory work. F. 9.30-12.30. Three courses.†
13. *Morphology and Taxonomy of the Algae. Two hours lecture, four hours laboratory work. First Term. Two courses. W. Th. 2-5.
14. *Morphology and Taxonomy of the Bryophyta. Two hours lecture, four hours laboratory work. Second Term. Two courses. W. Th. 2-5.
15. *Comparative Morphology of the Pteridophyta. Two hours lecture, four hours laboratory work. First Term. Two courses. Omitted in 1917-18.

†Additional hours will be arranged to meet the convenience of instructor and students.

16. *Comparative Morphology of the Gymnospermia. Two hours lecture, four hours laboratory work. Second Term. Two courses. Omitted in 1917-18.

Dr. STECKBECK.

5. **Plant Nutrition. One hour lecture, two hours laboratory work. W. 2-5. Two courses.†
6. **Plant Irritability. One hour lecture, two hours laboratory work. M. 2-5. Two courses.
7. **Plant Cell Products. One hour lecture, two hours laboratory. M. 2-5. Two courses.

GRADUATE BOTANICAL CLUB.

The instructors and advanced students in Botany meet on alternate Monday evenings, from 7.15 to 9, to present original communications, review recent papers, and discuss the general principles of plant evolution.

NOTE.—Students taking a major in Botany will be required, before presenting themselves for the Doctor's degree, to study for not less than ten consecutive months in the Botanic Garden of the University or of some other institution possessing equal facilities for practical work in Botany.

The Botanical Department is well equipped with specimens, models, charts, microscopes, microtomes and other instruments of precision. The photographic and developing rooms are furnished with photo-micrographic, enlarging and reducing apparatus. A large collection of alcoholic specimens is constantly available for study. The herbarium includes collections made by I. Burk, Leidy, Rothrock, Gray, Aubrey-Smith, Ellis, Lindheimer, Brinton, the algae collection of Wolle, the moss collection of Josephine Lowe and the special collections of other well-known botanists. A varied series of museum preparations and dissections preserved in alcohol has been collected and is constantly being enlarged. The departmental library contains most of the memoirs, journals and text-books bearing on the subject, while the libraries

†Additional hours will be arranged to meet the convenience of instructor and students.

of the Academy of Natural Sciences, American Philosophical Society and other large collections of books are available for consultation.

The ground surrounding Botanical Hall covers nearly four acres and has been laid out as a botanic garden. It contains about three thousand species of native and exotic plants. Twelve greenhouses and an experimental plant house surround, and are in direct communication with the Hall. The plant houses contain an exceptionally rich and representative collection of species from all parts of the world, while the experimental plant house has been extensively utilized during the past twenty years for physiologic and morphologic studies by workers in the department.

XXIV. ZOÖLOGY.

Professor McCLUNG, *Chairman*; Professors MOORE and *CALVERT; Assistant Professor JACOBS; Dr. KRIBS, Dr. WENRICH and Dr. WHITING.

Majors—Morphology and Physiology.

Professor MOORE.

12. Comparative Embryology of the Vertebrata. One hour lecture, five hours laboratory and seminary work. Four courses. F. 9-12, other hours as arranged.

Professor McCLUNG.

13. Comparative Anatomy and Embryology of the Invertebrata. Four courses.
14. The Germ Cells and Inheritance. Hours to be arranged. Four courses.

Zoölogical Seminary. F. 4.

An organization of the instructors and graduates for the presentation of original papers, the discussion of assigned topics, and reports upon current biological literature.

5. **Microscopic Anatomy. W. F. 9.30-12.30. Four courses.

*Absent on leave, second term.

Professor CALVERT.

6. *Entomology. Two hours lecture, four hours laboratory or seminary work. Hours to be arranged. Two courses. First term only in 1917-18.
21. Taxonomic Entomology and History of Entomology. Four, six or eight hours laboratory work, and occasional lectures. Prerequisite, Course 6 or its equivalent. One, one and one-half or two courses. First term only in 1917-18.

Assistant Professor JACOBS.

4. *General Physiology. Two hours lecture, four hours laboratory work. Tu. Th. 9-12. Four courses.
15. Physiology of the Cell. Hours to be arranged. Four courses.

Dr. KRIBS.

10. Animal Behavior. One hour lecture, two hours laboratory work. F. 2-5. Lecture hour to be arranged. Two courses.

Dr. WENRICH.

8. **The Protozoa. Two hours lecture, four hours laboratory. First Term. Hours to be arranged. Two courses.
16. *The Protozoa. Advanced course. Two hours lecture, four hours laboratory or seminary work. Second Term. Hours to be arranged. Two courses.

Dr. WHITING.

23. Genetics. Two hours lecture. Four hours laboratory work. Hours to be arranged. Four courses.

Research Work in Comparative Neurology may be pursued in the Wistar Institute or Anatomy and Biology by special arrangement with the Director of the Institute.

FACILITIES FOR THE STUDY OF ZOÖLOGY.

The Zoölogical Laboratory, first occupied in the fall of 1911, is fully equipped for any kind of morphological or physiological studies. It contains besides lecture rooms and class laboratories, rooms for constant temperature and light experiments, for breeding and culture work, for biochemistry, all kinds of photography, in-

cubation and cold storage, anatomical and microscopical preparation, also a series of private rooms for investigators. The equipment of apparatus is thoroughly ample and modern. Connected with the Laboratory is the Vivarium, with fresh water and salt water aquaria arranged for the study of animals under natural conditions.

Special features of the zoölogical material are the Leidy, Cope, Hyrtl and Montgomery collections. The Leidy collection of parasites comprises a large number of the specimens studied and described by the late Professor Leidy in numerous papers, and revised, since his death, by Dr. C. W. Stiles; it is particularly rich in flat-worms and nematodes. The Cope osteological collection includes miscellaneous lots of vertebrate skeletons, especially of American reptiles and mammals; much of it formed the basis of various papers prepared by the late Professor Cope.

The Hyrtl collection of fish skeletons is widely known as having served Hyrtl (of Vienna) in the preparation of numerous anatomical memoirs and Cope in outlining a classification of fishes. It consists of nearly 800 beautifully prepared skeletons representing a great variety of types, and is frequently consulted by visiting ichthyologists.

The Montgomery collection consists of Arachnids, Nemertines and Gordiids, including the microscopic slides on which Professor Montgomery's researches were based.

The zoölogical library comprises about 6,000 volumes, including the principal monographs and works of reference on various groups of animals, and the chief zoölogical journals. The libraries of the former professors, Leidy, Cope, Ryder and Montgomery, are here and are particularly strong in the specialties of those masters; vertebrate morphology and paleontology, araneology, helminthology and cytology.

Other facilities for work in Philadelphia, open to graduate students in the University, without cost, upon recommendation from the faculty, are those of the Wistar Institute of Anatomy and Biology, the Academy of Natural Sciences and the Zoölogical Gardens.

The Wistar Institute of Anatomy and Biology, only two squares distant from the Zoölogical Laboratory, is devoted solely to original research, at the present time chiefly in Neurology, Comparative Anatomy and Embryology of Vertebrates. It acts as publisher for the following national journals: *Journal of Morphology*, *American Journal of Anatomy*, *Anatomical Record*, *Journal of Comparative*

Neurology and Psychology, and *Journal of Experimental Zoölogy*. Its collections and library are open to all properly qualified investigators.

The Academy of Natural Sciences of Philadelphia, at Nineteenth and Race Streets, has the most extensive zoölogical, botanical and geological library in America, comprising practically all the periodical publications of the world on these subjects, as well as monographs and separate works. It renders it possible for the zoölogical student to consult everything that has been published in his chosen field of research. The zoölogical collections of the Academy are of especial richness in the groups of mollusks, birds, insects, fishes and annelids, and in paleontology.

The Zoölogical Gardens, in West Fairmount Park, offer excellent facilities for the investigation of living animals and for obtaining anatomical material.

XXV. MEDICAL SCIENCES.

Professor A. J. SMITH, *Chairman*; Professors REICHERT, PIERSOL, ABBOTT, BURR, TAYLOR, PEARCE and RICHARDS.

Majors—Anatomy; Physiology; Physiological Chemistry; Bacteriology; Pathology; Research Medicine; Pharmacology.

Professor PIERSOL.

- I. Anatomy. Taken as a major only by individuals with satisfactory preparation in Human Anatomy or General Anatomy, and offered only for research work upon such anatomical subjects as may be assigned by the Professor of Anatomy after consultation with each student. Hours to be assigned in each case.

Human Anatomy may be taken as a minor by students approved by the Professor of Anatomy. Hours for lecture and dissection exercises to follow the class-work scheduled for the students of the School of Medicine, along with supplementary work as may be indicated by the professor in charge. As a maximum not above six credits will be recognized for such work.

Special portions of Human Anatomy as may harmonize with other branches of study (as of the anatomy of the

nervous system for students of psychology) may be selected as minors. Hours of instruction to follow the schedule for such subjects in the School of Medicine, with supplementary work to be indicated by professor in charge.

Professor REICHERT.

2. Physiology. Taken as a major only by individuals with satisfactory preparation and offered only for research work upon such physiological topics as may be assigned by the Professor of Physiology after consultation with each student. Hours to be assigned in each case.

Taken as a minor only by students with approved preparation, in appropriate arrangement with other selected branches. Hours of lecture and laboratory exercises as scheduled in the School of Medicine, with supplementary work to be indicated by professor in charge. As a maximum not above six credits will be recognized for such work.

Professor TAYLOR.

3. Physiological Chemistry. Taken as a major by students with approved preparation in General Chemistry and elementary Physiological Chemistry, and offered only for research study. Hours to be assigned in each case.

Taken as a minor only by students with approved preparation in General Chemistry, in appropriate arrangement with other selected branches. Hours of lecture and laboratory exercises as scheduled in the School of Medicine, with supplementary work to be indicated by professor in charge. As a maximum not above four credits will be recognized for such work.

Professor ABBOTT.

4. Bacteriology. Taken as a major only by students approved by the Professor of Hygiene and Bacteriology for work in General Bacteriology or for work with the pathogenic organisms. Hours of instruction and laboratory work assigned by the professor in charge for each individual accepted.

Taken as a minor in connection with other appropriate subjects selected. Hours of instruction and laboratory exercises as scheduled in the School of Medicine, with supplementary work to be indicated by professor in charge. As

a maximum not above three units will be recognized for such work.

5. Public Hygiene. Lectures two hours a week. First Term. One credit.
6. Practical Hygiene. Twelve hours laboratory work weekly. First Term. Three credits.

Professor A. J. SMITH.

7. Pathology. General Pathology or special divisions of appropriate dignity may be selected as major subjects only by students with approved preparation; the work in any subject to be conducted with the instruction in the School of Medicine as a basis and advancing into individual research in topics assigned by the Professor of Pathology after consultation with the individual student. Hours of instruction and laboratory work assigned in each case.

Courses of lecture and laboratory instruction at present in operation include, along with the usual subjects, protozoan infections and metazoan parasitology and serology; each one course. As a minor the existing instruction to the classes in the School of Medicine will be recognized for a maximum of not above six credits and is to be supplemented by further work as indicated by professor in charge.

Professor BURR.

8. Mental Diseases. Taken as a minor only by students with approved preparation in Psychology, the work to be taken in connection with the course in the School of Medicine. Further instruction consisting of one hour a week in ward class work will be given to students far enough advanced to profit by it. One-half or one credit.

Professor PEARCE.

9. Research Medicine. This subject is open only as a major to students with approved preparation, as research work in those problems of scientific medicine to which can be applied laboratory methods.

Professor RICHARDS.

10. Pharmacology. Work may be elected either as a major or a minor in this branch, subject in matter of instruction and hours to the requirements of the student with the approval of the professor in charge. As a minor, a maximum of not above four credits.

THE LIBRARY.

The total number of volumes in the University Library is at present 431,523, of which number about 58,000 belong to the Biddle Law Library.

The Library receives in exchange for its own publications the dissertations published at all the leading American, German, French, Belgian and Dutch Universities, as well as the serials and other publications of many of the Learned Societies of the United States, England, France, Germany, Austria, Belgium, Holland and Italy.

A feature of special interest to the members of the Graduate School is the large number of periodicals of a technical character in all departments of research to which the Library subscribes, and of most of which it has complete files. There are received regularly by the main Library 1,802 periodicals.

Among the collections of the University Library, to which special attention may be called, and to which additions are constantly being made, are: the Allen Library—Classical Philology; the Bechstein Library—Germanic Philology; the Francis M. Macauley Library, on Dante, Petrarch and Tasso; the Brinton Library—American Languages, Ethnology; the Lamborn Library—Ethnology and Travels; the Cary Library with its unique collection of about 3,000 rare pamphlets on finance. The Library also has a collection derived from various sources of about 8,000 volumes on the Old Testament, Hebrew Philology, Rabbinical Literature, Arabic, Assyrian and other Semitic Languages. In Romance Philology and History there are collections of about 6,000 volumes to which additions are made yearly.

The collections in English Literature and Philology, for which, apart from regular appropriations and special gifts, the J. B. Lippincott Fund and portions of the Norris and Wagner Funds at the disposal of the Library have been used, are now very extensive in the various subdivisions. For many years the Library has made a special feature of collecting the early editions of dramas of the

Elizabethan period to be used as material for the preparation of theses in the English Department.

For the study of European History the Library possesses most of the important serial publications of original historical documents published in England, France and Germany. For American History extensive collections of United States, state and municipal documents are available. The Library also receives regularly state and municipal reports as well as Annual Reports of railroads and other corporations. On the History of Fine Arts, the Library contains several hundred volumes, including many valuable illustrated monographs. The collection of photographs is very complete, numbering about 6,000. In Mathematics and Astronomy attention has lately been paid to securing complete files of serials and periodical publications and reports of observatories.

For the graduate students in Chemistry, Physics, Botany and Zoölogy, special departmental libraries have been placed in the laboratories devoted to these subjects; and the current numbers of technical periodicals are, immediately upon receipt, distributed to the departmental libraries to which they belong.

GRADUATE SCHOOL.

FELLOWS AND SCHOLARS, 1916-17.

ON THE GEORGE LEIB HARRISON FOUNDATION.

FELLOWSHIPS FOR RESEARCH.

In Anthropology:

Name.	Residence.	City Address.
*Ernest William Hawkes	Philadelphia	3954 Pine St.
A.B., A.M., Ph.D. (Dakota Wesleyan, 1909; Pennsylvania, 1913, 1915). Fellow in Anthropology, Columbia, 1913-1914; Harrison Fellow in Anthropology, 1914-1915; Harrison Research Fellow in Anthropology, 1915-1916.		

In Semitics:

Heinrich Friedrich Lutz	Philadelphia	4314 Sansom St.
Graduate of German Gymnasium, 1904; B.D., Chicago Lutheran Theological Seminary, 1910; Ph.D., Yale University, 1916.		

In Sanskrit:

William Norman Brown	Baltimore, Md.	227 S. 41st St.
A.B., Ph.D. (Johns Hopkins, 1912, 1916).		

In History:

James Garfield Randall	Indianapolis, Ind.	Dorm. 31 Graduate
A.B., A.M., Ph.D. (Butler College, 1903; University of Chicago, 1904, 1911). Graduate Student, University of Michigan, 1908-1909; Fellow, University of Chicago, 1909-1910; Instructor in History, Syracuse, 1910-1911; Butler College, 1911-1912; Professor of History and Economics, Roanoke College, 1912-1916.		

In Mathematics:

John Robert Kline	Philadelphia	5645 Malcolm St.
A.B., A.M., Ph.D. (Muhlenberg, 1912; Pennsylvania, 1914, 1916). Harrison Fellow in Mathematics, 1914-1915; Holder of Half University Scholarship, 1915-1916.		

In Astronomy:

Krikoris Garabed Bohjelian	Cesaera, Turkey in Asia	102 S. 61st St.
A.B., A.M., Ph.D. (Anatolia College, 1907; Pennsylvania, 1914, 1915). University Scholar in Astronomy, 1913-1915; Harrison Research Fellow, 1915-1916.		

*First Term.

In Zoölogy:

Name.	Residence.	City Address.
Phineas Wescott Whiting	Lowell, Mass.	Zoölogical Laboratory
A.B., M.S., Ph.D. (Harvard, 1911, 1912; Pennsylvania, 1916). Bussey Institute, Harvard, 1912-1914; Harrison Fellow in Zoölogy, 1914-1916.		

FELLOWSHIPS.

In Semitics:

Charles Dow Benjamin	Philadelphia	1509 N. 20th St.
A.B., A.M. (Pennsylvania, 1915, 1916). Harrison Scholar in Semitics, 1915-1916. Semitics, History of Religions; second year.		

In Greek:

Robert Ewing Dengler	Philadelphia	2324 N. Broad St.
A.B., A.M. (Pennsylvania, 1915, 1916). Harrison Scholar in Greek, 1915-1916. Greek, Latin, Sanskrit; second year.		

Franklin P. Johnson	Osceola, Mo.	Dorm. 37 Graduate
A.B., A.M. (Missouri, 1914, 1915). Graduate Student, Missouri, 1915-1916. Assistant in Archaeology and Art, Missouri, 1915-1916. Greek; Fine Arts; first year.		

In Latin:

James Pleasant Cook	Austin, Tex.	3226 Chestnut St.
A.B. (Texas, 1909). Graduate Student, Texas, 1911-1912; 1913-1916. Teacher of Latin and German, Hillsboro, Texas, High School, 1909-1911; Temple, Texas, High School, 1912-1913. Latin, Greek; first year.		

In English:

Walter H. R. Trumbauer	Philadelphia	4913 Florence Ave.
B.S., A.M. (Pennsylvania, 1912, 1913). University Scholar in English, 1912-1913; Assistant in English, Pennsylvania, 1913-1914; Instructor, Swarthmore, 1914-1915. English, Philosophy, German; fifth year.		

Stanley S. Swartley	Meadville	1234 S. 45th St.
A.B., S.T.B., A.M. (Pennsylvania, 1905; Boston University, 1908, 1909). Harrison Fellow in English, 1913-1914. Instructor in English, Allegheny College, 1910-1913; Assistant Professor, 1914 to date. English; second year.		

Bruce W. McCullough	Scottsburg, Ind.	Dorm. 45 Graduate
A.B., A.M. (Indiana, 1914, 1915). Harrison Fellow in English, 1915-1916. English; second year.		

In German:

Chester Squire Phinney	Pawtucket, R. I.	3459 Walnut St.
A.B. (Maine, 1911). University of Berlin, 1912-1914. Principal, Dennyville High School, Maine, 1911-1912; Head of Modern Language Department, Powder Point School, Duxbury, Mass. Germanics, Education; first year.		

Name. Residence. City Address.

Karl William Henry Scholz Terryville, Conn. Dorm. 26 Morgan
B.S., A.M. (Pennsylvania, 1911, 1915). Head of German Department, Bethlehem Preparatory School, 1912-1914; Instructor in German, Pennsylvania, 1914-1916. Germanics, English Philology; third year.

In Romanics:

Edwin B. Williams Reading 3216 Chestnut St.
A.B., A.M. (Pennsylvania, 1914, 1916). Harrison Scholar in Romanics, 1915-1916. Instructor in French and German, Columbia High School, 1914-1915. Romanics, Philosophy; second year.

In History:

William Freeman Galpin Muskegon, Mich. Dorm. 43 Bishop White
A.B., A.M. (Northwestern, 1913, 1914). Graduate Student, Yale, 1914-1915; Harrison Fellow in History, 1915-1916. History; second year.

Ralph Paul Bieber Allentown Dorm. 42 Graduate
A.B., A.M. (Muhlenberg, 1914; Pennsylvania, 1915). University Scholar in History, 1915-1916. History; third year.

In Political Science:

Dana Gardner Munro Princeton, N. J. Dorm. 33 Graduate
A.B. (Wisconsin, 1912). Graduate Student, Munich, 1912-1913; Harrison Fellow in Political Science, 1913-1914. Political Science, History; second year.

In Economics:

Gordon Watkins Joliet, Ill. 4024 Spruce St.
A.B., A.M. (Montana, 1914; Illinois, 1915). Scholar in Sociology, Illinois, 1914-1915; Assistant in Sociology, Illinois, 1915-1916. Economics, Sociology, Political Science; first year.

In Sociology:

Arthur Evans Wood Portland, Ore. University Settlement House
A.B., B.D. (Harvard, 1906; Harvard Divinity, 1911). Instructor in Social Science, Reed College, Portland, Ore., 1911-1915. Harrison Fellow in Sociology, 1915-1916. Sociology, Political Science, Economics; second year.

In Psychology:

Franklyn Cressey Paschal Davenport, Iowa 3312 Walnut St.
A.B., A.M. (De Pauw University, 1911; Pennsylvania, 1916). Psychology, Sociology; second year.

In Mathematics:

George H. Hallett, Jr. Lansdowne [199 Owen Ave.]
A.B., A.M. (Haverford, 1915; Harvard, 1916). Mathematics; first year.

In Botany:

Name.	Residence.	City Address.
Howard H. M. Bowman	Lancaster	157 N. 20th St.
B.Ph., M.Ph. (Franklin and Marshall, 1913, 1914). Harrison Scholar in Botany 1914-1915; Harrison Fellow, 1915-1916. Botany; third year.		

Ralph Erskine Cleland	Philadelphia	802 N. 17th St.
A.B., M.S. (Pennsylvania, 1915, 1916). Assistant in Botany, Pennsylvania, 1915-1916. Botany; second year.		

In Zoölogy:

Mitchel Carroll	Philadelphia	617 S. 16th St.
B.S. (Pennsylvania, 1915). Teacher in Philadelphia Public Schools, 1910-1914. Assistant in Zoölogy, 1915-1916. Zoölogy, Botany; second year.		

Joseph Hall Bodine	Rockaway, N. J.	3715 Powelton Ave.
A.B. (Pennsylvania, 1915). Assistant in Zoölogy, 1915-1916. Zoölogy, Bacteriology; second year.		

SCHOLARSHIPS.

In Psychology:

Archie Lewis Ide	Seattle, Wash.	3911 Woodland Ave.
A.B., A.M. (Hamline University, 1904; Washington, 1914). Assistant in Psychology, University of Washington, Summer Sessions of 1914 and 1916. Psychology, Philosophy; first year.		

In English:

*Harold Saeger Stine	Philadelphia	1417 N. 5th St.
A.B. (Pennsylvania, 1916). English, Germanics; first year.		

In Romanics:

Joseph Arthur Meredith	Allentown	[444 Tilghman St.]
A.B. (Lehigh, 1916). Romanics; first year.		

In History:

Charles Raymond Hollenbach Perkasie		[519 Market St.]
B.S. (Pennsylvania, 1916). History, English; first year.		

In Philosophy:

Earle Marshall Humphreys	Philadelphia	5373 Bellfield Ave.
A.B. (Pennsylvania, 1916). Philosophy, Mathematics; first year.		

In Mathematics:

Name.	Residence.	City Address.
Harry Polish	Philadelphia	319 Cross St.
A.B. (Pennsylvania, 1916). Mathematics, Philosophy; first year.		

In Chemistry:

George W. Birch, Jr.	Philadelphia	1414 E. Columbia Ave.
B.S. (Pennsylvania, 1915). University Scholar in Chemistry, 1915-1916. Chemistry; second year.		

In Latin:

†Henry Vogel Shelley	Lansdowne	214 N. Maple Ave.
A.B. (Columbia, 1913). Latin, Greek; first year.		

ON THE HECTOR TYNDALE FOUNDATION.

Fellowship in Physics:

John Clarence Karcher	Hennessey, Okla.	3904 Baltimore Ave.
A.B. (Oklahoma, 1916). Physics, Mathematics; first year.		

ON THE JOHN FRIES FRAZER FOUNDATION.

Fellowship in Physics:

Bernard Francis Dostal	Milwaukee, Wis.	208 S. 36th St.
A.B., A.M. (Wisconsin, 1914; Indiana, 1915). Fellow in Physics, Indiana, 1914-1915; Assistant and Instructor in Physics, Indiana, 1915-1916. Physics, Mathematics; first year.		

ON THE ROBERT M. GIRVIN FOUNDATION.

Fellowship in Medical Science:

Jay McLean	San Francisco, Cal.	223 S. 36th St.
B.S. (California, 1914). Graduate Student, Johns Hopkins, 1915-1916. Research Medicine; first year.		

ON THE MRS. BLOOMFIELD MOORE FOUNDATION.

FELLOWSHIPS.

In English:

Ruth Coons Wallerstein	Philadelphia	254 W. Hortter St.
A.B., A.M. (Bryn Mawr, 1914; Pennsylvania, 1915). University Scholar in English, 1915-1916. English, Greek; third year.		

In Chemistry:

Name.	Residence.	City Address.
*Sophie Elizabeth Foell	Philadelphia	5711 Kingessing Ave.
B.S., A.M. (Pennsylvania, 1911, 1916). Teacher in Science, William Penn High School for Girls, 1911-1916. Chemistry; third year.		

ON THE JOSEPH M. BENNETT FOUNDATION.

FELLOWSHIPS.

In English:

Sarah Florence Fogelsanger	Shippensburg	1615 Ruscomb St.
A.B., A.M. (Juniata College, 1912; Pennsylvania, 1916). Instructor in English and Pedagogy, Lonsbury College, 1912-1913; Shippensburg State Normal School, 1913-1914; Frances E. Bennett Scholar in English, 1915-1916. English, History of Religions; third year.		

In Latin:

Clara A. Holtzhauser	Philadelphia	2300 E. York St.
A.B., A.M. (Pennsylvania, 1914, 1915). University Scholar in Latin, 1914-1915; Moore Fellow in Latin, 1915-1916. Latin; third year.		

ON THE FRANCES SERGEANT PEPPER FOUNDATION.

Fellowship in Germanics:

Mary Agnes Quimby	Berwyn	Sergeant Hall
A.B. (Bryn Mawr, 1906). Teacher of German and History, Berwyn High School, 1907-1914. Germanics, Education; second year.		

ON THE FRANCES E. BENNETT MEMORIAL FOUNDATION.

Scholarship in English:

Miriam Alice Franc	Washington, D. C.	Sergeant Hall
A.B., A.M. (Goucher, 1915; Pennsylvania, 1916). English; second year.		

ON THE GERMAN TRAVELING SCHOLARSHIP FUND.

In Chemistry:

Ernest Albert Vuilleumier	Philadelphia	Berne, Switzerland
B.S. (Pennsylvania, 1914). Student at the University of Berne, 1916-1917.		

UNIVERSITY FELLOWSHIPS AND SCHOLARSHIPS.

FELLOWSHIPS FOR RESEARCH.

In Sanskrit:

Name.	Residence.	City Address.
Henry Snyder Gehman	Ephrata	Dorm. 23 Graduate
A.B., A.M., Ph.D. (Franklin and Marshall, 1909, 1911; Pennsylvania, 1913). University Scholar in Classics, 1910-1911; Harrison Fellow, 1911-1912; Harrison Fellow in Indo-European Philology, 1912-1913; first term, 1913-1914. Instructor in Greek and Latin, Hill School, Pottstown, 1914-1915; Instructor in German, Southern High School for Boys, 1915 to date.		

In Romanics:

S. L. Millard Rosenberg	Lansdowne	[9 Violet Lane]
B.S., A.M., Ph.D. (Pennsylvania, 1907, 1908, 1909). Traveling Fellow in Romanics, 1905-1906; Harrison Fellow, 1907-1909; University Research Fellow, 1910-1916. Professor of Modern Languages, Girard College.		

SCHOLARSHIPS.

In Latin:

Maurice Abram Hess	Mont Alto	3445 Woodland Ave.
A.B. (Ursinus, 1914). Instructor, High School, Tamaqua, 1914-1916. Latin; first year.		
Jacob Abraham Kaplowitt	Atlantic City, N. J.	3420 Sansom St.
A.B. (Pennsylvania, 1916). Latin, German; first year.		
Franklin Abram Kuller	Alinda	3437 Chestnut St.
A.B., A.M. (Dickinson College, 1914, 1915). Instructor in Latin and Vice-Principal of Wilmington Conference Academy, Dover, Del., 1914-1916. Latin, History; first year.		

In English:

Esther Parker Ellinger	Baltimore, Md.	Sergeant Hall
A.B., A.M. (Goucher, 1915; Pennsylvania, February, 1917). English; second year.		
Ernest Jackson Hall	State College	3341 Woodland Ave.
A.B., A.M. (Allegheny, 1913; Pennsylvania State, 1914). Teaching Fellow in English, Pennsylvania State College, 1913-1914; Instructor in English, 1914-1915. English; first year.		
†**Louise Crownover	Huntingdon	443 Wister St., Gtn.
A.B. (Juniata, 1912). Teacher, Abington High School, 1914 to date. English, Education; second year.		

†Second Term.

**Holder of Half University Scholarship.

In Germanics:

Name.	Residence.	City Address.
*Benjamin Franklin Schappelle	Philadelphia	3026 Diamond St.
A.B., A.M. (Dickinson, 1908, 1910). University Scholar in Germanics, 1908-1909; Holder of Deutscher Verein Traveling Scholarship, 1909-1910; German Traveling Scholarship during the summer of 1916. Professor of Romance Languages, Pennsylvania College, 1911-1916. German, French, Italian; fourth year.		
**William James Mawhinney	Philadelphia	2845 N. 24th St.
A.B. (Pennsylvania, 1912). Instructor in German and French, South Philadelphia High School for Boys, 1912 to date. Germanics; first year.		

In Romanics:

Re Edwards Williamson	Philadelphia	1833 W. Tioga St.
A.B. (Pennsylvania, 1916). Romanics; first year.		

In History:

Marguerite Gold Bartlett	Philadelphia	201 N. 50th St.
A.B., A.M. (Bryn Mawr, 1913, 1915). Head of the Department of English, Darlington Seminary, 1913-1914; Scholar in History, Bryn Mawr, 1914-1915; Instructor in History, Civics and English, Pleasantville, N. J., High School, 1915-1916. History, Political Science; first year.		
**Ernest Bates	Philadelphia	1958 N. 18th St.
B.S. (Pennsylvania, 1915). Instructor in Philadelphia Grammar Schools, 1907 to date. History, Political Science; first year.		
**Laura Hanes Cadwallader	Philadelphia	1530 N. 19th St.
A.B. (University of Wisconsin, 1916). Third year.		
James Monaghan	Philadelphia	3309 Baring St.
A.B. (Swarthmore, 1913). Principal, Randlett, Utah, District School, 1914-1915; University Scholar in History; second term, 1915-1916. History, Political Science; second year.		

In History of Religions:

**Robert Harris Gearhart I, Jr.	Philadelphia	434 N. 35th St.
A.B. (Gettysburg, 1910). Student, Lutheran Theological Seminary, Gettysburg, 1910-1913. History of Religions; first year.		

In Political Science:

Harold Willis Dodds	Butler	Dorm. 51 Provost Tower
A.B., A.M. (Grove City College, 1909; Princeton, 1914). Instructor in History and Economics, Purdue University, 1914-1916. Political Science, Economics, History; first year.		

*First Term.

**Holder of Half University Scholarship.

Name.	Residence.	City Address.
†Douglas Campbell Orbison	Overbrook	
Litt.B. (Princeton, 1912). University Scholar in Political Science, 1915-1916. Political Science; fourth year.		

In Economics:

Daniel Wilson Rodick	Freeport, Me.	3421 Walnut St.
A.B. (Bowdoin, 1915). Economics, Sociology; second year.		
Max Trumper	Philadelphia	1106 Passyunk Ave.
B.S., A.M. (Pennsylvania State College, 1915; Pennsylvania, 1916). University Scholar in Psychology, 1915-1916. Economics; second year.		
*Thomas Tregoning Ridington	Lansdale	[157 S. Broad St.]
B.S. (Pennsylvania, 1916). Instructor, Science and Geography, Central High School, 1916. Economics; first year.		

Merton Grant Kennedy	Caldwell, Idaho	3701 Chestnut St.
A.B. (University of Idaho, 1914). Economics, History, Education; first year.		

In Sociology:

Iary Melvin	Hartford, Conn.	Sergeant Hall
A.B. (Goucher, 1912). Sociology, Political Science, English, History; second year.		
James Henry Terry	Pamplin, Va.	[Mount Holly, N. J.]
A.B., B.D., A.M. (Richmond College, 1911; Crozer Theological Seminary, 1914; Pennsylvania, 1914). Sociology, Economics; fifth year.		

In Education:

turgiss Brown Davis	Groveport, Ohio	[Collegeville]
A.B., A.M. (Ohio Wesleyan, 1907; Ohio State, 1912). Professor of Education, Ohio Northern University, 1914-1916. Education; first year.		

*Leroy Albert King	Jenkintown	
B.S., A.M. (Columbia, 1910, 1916). Supervising* Principal of Schools, Jenkin- town. Education, Sociology; third year.		

*Lewis Ira Loveland	Pottstown	[237 Beech St.]
A.B. (Amherst, 1896). Principal of High School, Lebanon, 1902-1908; High School, Pottstown, 1908 to date. Education; second year.		

**Holder of Half University Scholarship.

†Second Term.

Name.	Residence.	City Address.
**William Mandeville Austin	Camden, N. J.	[1300 Park Blvd.]
A.B., A.M. (Princeton, 1908; Pennsylvania, 1914). Holder of Half University Scholarship in Education, 1913-1914, 1915-1916. Education, English; fifth year.		

In Greek:

Oscar Rudolph Sandstrom	Philadelphia	2986 Salmon St.
A.B., A.M. (Pennsylvania, 1914, 1915). Harrison Scholar in Greek, 1914-1915. Harrison Fellow in Greek, 1915-1916. Greek, Latin; fourth year.		

In Psychology:

Irene Louise Glenn	New York City	Sergeant Hall
A.B. (Barnard College, 1912). Graduate Student, Columbia, 1914. Psychology first year.		

Donald M. Marvin	Fort DuPont, Del.	3265 Sansom St.
A.B., A.M. (Rollins College, 1915; Pennsylvania, 1916). Instructor in Mathematics, Rollins College, 1913-1915; Harrison Scholar in Psychology, 1915-1916. Psychology, Economics, Sociology, Education; second year.		

*Anna Beach Pratt	Elmira, N. Y.	3601 Walnut St.
A.B., A.M. (Elmira, 1886; Pennsylvania, 1916). Teacher of History, Elmira College, 1890-1891. Psychology, Political Science; second year.		

In Physics:

Franklin Broadhead Wright	Lansdowne	[107 E. Greenwood Av.]
B.S. in E.E. (Pennsylvania, 1913). Physics, Mathematics; first year.		

**George Rosengarten	Philadelphia	6105 Carpenter St.
B.S. (Pennsylvania, 1908). Holder of Half University Scholarship in Physics, 1913-1916. Instructor, West Philadelphia High School, 1911 to date. Physics; fourth year.		

In Chemistry:

Ernest Carl Wagner	Wilmington, Del.	[706 W. 22nd St.]
A.B., A.M., Ph.C., Phar.D. (Ursinus, 1910, 1914; Medico-Chirurgical College, 1913, 1914). Instructor in Chemistry, Medico-Chirurgical College, 1914-1915. Chemistry, Mathematics; first year.		

In Zoölogy:

Marie Fansher Stehle	Yeadon	
A.B., A.M. (Ohio State University, 1911, 1912). Assistant in Zoölogy, Ohio State University, 1912-1913. Zoölogy, Botany; second year.		

*First Term.

**Holder of Half University Scholarship.

Name.

Residence.

City Address.

*Harold Fetter Grim

Lincoln University 755 N. 39th St.

A.B. (Lafayette, 1912). Zoölogy; first year.

Arlene J. McKinney

Coatesville

540 E. Washington Lane

A.B. (Allegheny, 1915). Zoölogy; second year.

DOCTORS OF PHILOSOPHY.*Registered to Pursue Special Work.*

Theodore Arthur Buenger St. Paul, Minn. Dorm. 32 Graduate

A.B., A.M., Ph.D. (Minnesota, 1906, 1907; Pennsylvania, 1914). Student, Concordia Theological Seminary, 1903-1904, 1906-1908. Instructor in German, Lutheran Ladies' Seminary, 1910-1911. Special Harrison Fellow in Classics, 1911-1912. Fellow, American School of Classics, Athens, 1912-1913. Harrison Fellow in Greek, 1913-1914. Harrison Research Fellow in Greek, 1914-1915. Instructor in Latin, Pennsylvania, 1915 to date.

Estella Eleanor Carothers Lawrence, Kan. Zoölogical Lab., U. of P.

A.B., A.M., Ph.D. (Kansas, 1911, 1912; Pennsylvania, 1916). Fellow in Zoölogy, Kansas, 1911-1912; Pepper Fellow in Zoölogy, Pennsylvania, 1912-1913; Assistant in Zoölogy, 1913 to date.

William Joseph Henry Cotton Philadelphia 500 W. Midvale Ave.

A.B., A.M., Ph.D. (Temple, 1906; Pennsylvania, 1911, 1914). Holder of a Half University Scholarship in Political Science, 1909-1911; University Scholar in Economics, 1911-1912. Director of Commercial Department, Wilmington High School, 1913-1916; Germantown High School, Philadelphia, 1916.

Neva Ruth Deardorff Philadelphia 4640 Hazel Ave.

A.B., Ph.D. (Michigan, 1908; Pennsylvania, 1911). Moore Fellow in History, 1908-1909; Bennett Fellow in History, 1909-1911.

Allen K. Faust Sendai, Japan 1737 N. 60th St.

A.B., A.M., Ph.D. (Franklin and Marshall, 1897, 1900; Pennsylvania, 1909). Student, Reformed Theological Seminary, Lancaster, 1897-1900; Professor in North Japan College, 1900-1907; Half University Scholar in History, 1907-1908; Harrison Scholar in Sociology, 1908-1909. Principal of the Miyagi Girls' School, Sendai, Japan.

Hayim Fineman Philadelphia 2813 N. Broad St.

B.S., Ph.D. (Pennsylvania, 1907, February, 1917). Assistant Professor of English Language and Literature, Temple University.

Emily Ray Gregory Sweet Briar, Va.

A.B., A.M., Ph.D. (Wellesley, 1895; Pennsylvania, 1896; Chicago, 1899). University Fellow, 1892-1893; Fellow, Naples Zoölogical Station, 1899-1900. Professor of Biology, Wells College, 1901-1909; Constantinople College, 1909-1911; University of Akron, 1913-1915.

- | Name. | Residence. | City Address. |
|---|---------------------|------------------------|
| David Scott Hanchett | Philadelphia | Houston Hall, U. of P. |
| A.B., Ph.D. (Wisconsin, 1910; Pennsylvania, February, 1915). Harrison Scholar in Economics, 1912-1913; Assistant in Economics, 1913-1916. General Secretary of the Christian Association, Pennsylvania, 1916. | | |
| Joseph Samuel Hepburn | Philadelphia | 2045 N. Franklin St. |
| B.S. in Chemistry, M.S., Ph.D. (Pennsylvania, 1907, 1907; Columbia, 1913). University Fellow in Chemistry, Columbia, 1912-1913. Expert in Government Research Laboratories. | | |
| William Frederick Kamman | Dale, Ind. | 3439 Chestnut St. |
| A.B., A.M., Ph.D. (Indiana, 1913, 1914; Pennsylvania, February, 1917). Student, University of Leipsic, Summer, 1914. Assistant in German, Pennsylvania, 1914. | | |
| Eleanor Larrabee Lattimore | Forest Hills, L. I. | 4111 Baltimore Ave. |
| A.B., A.M., Ph.D. (Bryn Mawr, 1900; Rochester, 1904; Pennsylvania, 1916). Bennett Fellow in Psychology, 1913-1914; Head of the Social Service Department of the Psychological Clinic, Pennsylvania, 1914 to date. | | |
| Charlotte F. McLean | Philadelphia | 277 S. 4th St. |
| A.B., A.M., Ph.D. (Bryn Mawr, 1899; Pennsylvania, 1901, 1907). Head of the German Department, Norristown High School, 1903-1907; Professor of French and German, Athens College, 1912. | | |
| George Frederick Miller | Philadelphia | Temple University |
| B.S., Ph.D. (Missouri, 1912; Columbia, 1916). Instructor in Teachers' College, Temple University. | | |
| John Young Pennypacker | Philadelphia | 1421 Arch St. |
| B.S., A.M., Ph.D. (Pennsylvania, 1911, 1912, 1915). Harrison Scholar in Botany, 1911-1912; University Scholar in Botany, 1912-1913. Instructor in Botany, Central High School, 1912-1915; Germantown High School, 1915 to date. | | |
| Robert Riegel | Philadelphia | 2001 S. 58th St. |
| B.S., A.M., Ph.D. (Pennsylvania, 1910, 1911, February, 1917). Assistant in Economics since 1910. | | |
| Caroline Thomas Rumbold | Philadelphia | 3824 Locust St. |
| B.L., A.M., Ph.D. (Smith, 1901; Washington University, 1903, 1911). Instructor in Botany, Missouri, 1908-1910. Bureau of Industry, Department of Agriculture, 1910-1915. | | |
| Lorle Stecher | Philadelphia | 72 W. Johnson St. |
| A.B., A.M., Ph.D. (Bryn Mawr, 1912, 1913; Columbia, 1916). Department of Psychology, Temple University, 1916. | | |

Name.	Residence.	City Address.
James Henry Weaver	West Chester	[239 Dean St.]
A.B., A.M., Ph.D. (Otterbein, 1908; Ohio State, 1911; Pennsylvania, 1916). Assistant in Mathematics, Ohio State, 1910-1912; Head of Mathematics Department, West Chester High School, 1912 to date. Holder of a Half University Scholarship in Mathematics, 1914-1915.		
Adolf Edward Zucker	Ft. Wayne, Ind.	4507 Woodland Ave.
A.B., A.M., Ph.D. (Illinois, 1912, 1913; Pennsylvania, February, 1917). Assistant in German, Illinois, 1913-1915; University of Pennsylvania, 1915 to date.		

REGULAR STUDENTS.

Abbott, William Lewis	Philadelphia	6807 N. 11th St.
A.B., A.M., LL.B. (Pennsylvania, 1911, 1913, 1913). Assistant in Economics, Pennsylvania, 1911 to date. Thesis work; sixth year.		
Adam, Francis Joseph Charles	Philadelphia	1240 N. Broad St.
A.B., A.M. (La Salle College, 1914; Catholic University, 1916). Professor of Chemistry, La Salle College, 1914-1915. Chemistry; first year.		
Adams, Robert Jones, Jr.	Philadelphia	1129 Walnut St.
B.S. (Pennsylvania, 1913). Instructor in Central Evening School, Philadelphia, 1913-1914; Instructor in English, Philadelphia Trades School, 1915 to date. Education, Sociology; second year.		
Adams, Roy Edgar	Philadelphia	5429 Catharine St.
A.B. (Temple College, 1913). Teacher, Longstreth Grammar School, 1907-1914. School of Pedagogy, 1914 to date. Education, Sociology; second year.		
Adamson, Alice Clement	Germantown	450 Cosgrove St.
A.B. (Swarthmore, 1909). Teacher of English, Germantown High School, 1916. English; fifth year.		
Allen, Arthur D. F.	Philadelphia	919 Corinthian Ave.
B.S. (New York University, 1916). Principal of Fort Washington High School, 1902-1916. Zoölogy; first year.		
Allen, Jane	Philadelphia	1147 S. Broad St.
A.B. (Bryn Mawr, 1904). Graduate Student, Bryn Mawr College, 1907-1909. English; third year.		
Andersen, Mary Jenkins	Philadelphia	4702 Hazel Ave.
A.B. (Swarthmore, 1914). Instructor in English, West Philadelphia High School, 1914 to date. English, Sociology; first year.		

- | Name. | Residence. | City Address. |
|---------------------------|-----------------------|--|
| Anderson, Gordon Blythe | Milwaukee, Wis. | 1330 Pine St.
B.S. in E., A.M. (Pennsylvania, 1913, 1915). Instructor in Finance, Wharton School, Pennsylvania, 1914. Economics, Business Law, Political Science: third year. |
| Andrews, Robert Wells | New York, N. Y. | The Montrose, 49th and Baltimore Ave.
A.B. (London University, 1892). Missionary Priest of the Protestant Episcopal Church to Japan. Philosophy; first year. |
| Angell, Charles Roy | Clifton Forge, Va. | [Crozer Theological Seminary, Chester]
A.B. (Richmond College, 1913). Sociology; second year. |
| Arms, Richard Allen | Pottstown | [608 High St.]
A.B. (Ursinus College, 1913). Instructor in Wilmington, Del., High School, 1913-1914. University Scholar in Mathematics, 1913-1914. Philosophy, Mathematics; fourth year. |
| Armstrong, Elisabeth Dean | Philadelphia | 4511 Kingsessing Ave.
A.B. (Wellesley, 1916). English, Economics; first year. |
| Asnis, Charles Edward | Philadelphia | 3211 Diamond St.
A.B., LL.B., A.M. (Pennsylvania, 1904, 1907, 1913). Instructor in Political Science, 1914 to date. |
| Austin, Winifred | East Norton,
Mass. | [Ogontz]
A.B., A.M. (Brown, 1898; Pennsylvania, 1906). Instructor in Ogontz School, Ogontz, Pa. Semitics, History of Religions; eighth year. |
| Babb, Charlton Hannum | Philadelphia | 6129 Columbia Ave.
A.B., A.M. (Temple, 1911; Pennsylvania, 1913). University Scholar in Sociology, 1913-1914. Holder of Half University Scholarship in Sociology, 1914-1915. Thesis work; sixth year. |
| Bachman, Helen | Jenkintown | A.B. (Smith, 1916). English, History; first year. |
| Bagger, Henry Horneman | Brooklyn, N. Y. | [Lutheran Theological Seminary, Mt. Airy]
A.B. (Muhlenberg, 1915). Teacher of German and English, Lebanon High School, 1915-1916. English, German; first year. |
| Baird, Charles Glenn | Powell, Wyo. | 5000 Woodland Ave.
A.B., A.M. (University of Kansas, 1911; University of Wyoming, 1913). Graduate Assistant, Massachusetts Agricultural College, 1913-1916. Sociology; first year. |

Name.	Residence.	City Address.
Baird, Donald Galbraith	Philadelphia	410 S. 15th St.
B.S., A.M. (Haverford, 1915, 1916). Instructor in English, Haverford, 1916. English; first year.		
Baker, Ethel May	Ardmore	[306 Clifford Ave.]
A.B. (Wellesley, 1910). Teacher, Berkshire Hills School, 1910-1911; Bishopthorpe Manor, South Bethlehem, Pa., 1911-1912; Lower Merion High School, Ardmore, Pa., 1912 to date. Romanics; second year.		
Baldwin, Donald C.	Philadelphia	6101 Walnut St.
A.B. (Haverford, 1906). Absent on leave; second year.		
Balentine, Harold Roscoe	Philadelphia	2247 S. 23d St.
B.S. (Pennsylvania, 1900). Head of Science Department, Scranton High School, 1902-1911; Teacher of Science, Southern High School, Philadelphia, 1911 to date. Botany; fourth year.		
Ballard, Charles McElvy	Philadelphia	2217 S. Broad St.
B.Litt. (Kenyon College, 1906). Medical Science; first year.		
Ballentine, Edith Funston	Philadelphia	Montrose Apts., 47th and Baltimore Ave.
A.B. (Cornell University, 1911). Teacher of English, West Philadelphia High School for Girls, 1912 to date. English; third year.		
Bareuther, Charles Adam	Philadelphia	2052 S. Frazier St.
B.S. in C.E. (Pennsylvania, 1912). Instructor in Science, West Philadelphia High School for Boys, 1915 to date. Physics; first year.		
Barlow, William Harvey	Brookneal, Va.	[Crozer Theological Seminary, Chester]
A.B. (Richmond, 1916). Sociology; first year.		
Barnes, Horace Richards	Media, Pa.	[24 E. Front St.]
A.B., A.M. (Pennsylvania, 1911, 1913). Harrison Scholar in Psychology, 1912-1913; Harrison Fellow in Economics, 1913-1915. Thesis work; fifth year.		
Barrett, James Joseph	Philadelphia	916 S. 22d St.
B.S. in Chem. E. (Pennsylvania, 1915). Teacher of Mathematics and Physics, Drexel Institute, 1915 to date. Sociology, Education; first year.		
Barrington, Beatrice	Mt. Holly, N. J.	[133 High St.]
A.B. (Pennsylvania, 1916). Teacher of English, Mt. Holly High School, 1912-1913. English; first year.		
Barron, Mary Louise	Berkeley, Cal.	1122 S. 52d St.
B.S., M.S. (University of California, 1911, 1913). Thesis work; fourth year.		

- | Name. | Residence. | City Address. |
|--|----------------|---------------------------------------|
| Bartlett, Elsie M. | Trenton, N. J. | [11 Tyrell Ave.] |
| A.B. (Pennsylvania, 1915). Teacher in Trenton Public Schools, 1908-1913. Psychology, Sociology; second year. | | |
| Bassett, Natalie Adele | Baltimore, Md. | 4529 Sansom St. |
| A.B., A.M. (Vassar, 1914; Pennsylvania, 1915). University Scholar in Psychology, 1914-1915. Psychology, Medical Science; third year. | | |
| Batchelor, Jean Muriel | Narberth | [105 Chestnut Ave.] |
| A.B. (Bryn Mawr, 1914). English; first year. | | |
| Bauder, Charles F. | Philadelphia | 1718 N. 28th St. |
| B.S. (Pennsylvania, 1907). Instructor in Electrical Engineering, Pennsylvania, 1907-1908; Teacher, Philadelphia Trades School, 1908 to date. Principal, Philadelphia Evening Trades School, 1913 to date. Education, Sociology; second year. | | |
| Baylis, Inez Marguerite | Montreal, Can. | 2217 S. Broad St. |
| A.B. (McGill University, 1907). Psychology; first year. | | |
| Beardslee, Sara Eliza | Philadelphia | 1536 N. 18th St. |
| A.B. (Temple, 1911). Teacher, Newark, N. J., Seminary, 1911-1912; College Preparatory School, Temple University, Philadelphia, 1912 to date. English, History; second year. | | |
| Beattie, James Alexander | Philadelphia | 115 N. Lambert St. |
| B.S. (Pennsylvania, 1916). Teacher in Philadelphia Public Schools, 1904-1915; Supervising Principal, 1915 to date. Psychology, Education; first year. | | |
| Bechtel, John Clemmer | Mt. Airy | [103 W. Nippon St.] |
| B.S., A.M. (Pennsylvania, 1908, 1911). Harrison Scholar in Mathematics, 1908-1909. Instructor in Mathematics, Central High School, 1909-1915. Assistant Professor, Germantown High School, 1915 to date. Physics; tenth year. | | |
| Becker, Meta Middendorf | Baltimore, Md. | The Montrose, 49th and Baltimore Ave. |
| A.B. (Cornell, 1912). Teacher, William Penn High School, 1915 to date. Germanics; first year. | | |
| Beckerman, Harry | Philadelphia | 2317 S. 8th St. |
| B.S. (Pennsylvania, 1915). Chemistry; second year. | | |
| Beer, Phares Groff | Philadelphia | 7301 Germantown Ave. |
| A.B. (Muhlenberg, 1913). Graduate Student, Lutheran Theological Seminary, 1914. Education; first year. | | |
| Beidler, Melvin H. | Philadelphia | 1212 W. Somerset St. |
| B.S. (Pennsylvania, 1916). Teacher in the Philadelphia Public Schools, 1913 to date. History, Economics; second year. | | |

- | Name. | Residence. | City Address. |
|--|----------------------|--|
| Beliekowsky, Sadie | Philadelphia | 5721 Larchwood Ave. |
| A.B., A.M. (Bryn Mawr, 1912, 1913). Education, Psychology; first year. | | |
| Benjamin, Clarence Jansen | Philadelphia | 1720 S. 22d St. |
| A.B. (Syracuse, 1904). History of Religions, Sociology; first year. | | |
| Bernard, Melamed B. | Bukarest
Roumania | 1431 S. 4th St. |
| Degree of Capacity (Lyceum, Bukarest, 1903). M.D. (Pennsylvania, 1909).
Medical Student, University of Bukarest, 1903-1907. Psychology; fifth year. | | |
| Biddle, Anna Eleanor | Philadelphia | 5901 Thompson St. |
| A.B. (Cornell, 1910). Teacher of Science, William Penn High School, Philadelphia, 1911 to date. Bacteriology; third year. | | |
| Biddle, M. Georgina | Philadelphia | 2017 De Lancey Place |
| A.B. (Bryn Mawr, 1910). Zoölogy; second year. | | |
| Birch, Lillian Watson | Upper Darby | |
| A.B., A.M. (Pennsylvania, 1910, 1912). Education; fifth year. | | |
| Bischoff, Carl Hauser | Camden, N. J. | 1717 N. 42d St. |
| A.B. (Princeton, 1916). History, English; first year. | | |
| Black, Matthew Wilson | Altoona | 758 Martin St. |
| A.B., A.M. (Pennsylvania State College, 1911; Pennsylvania, 1916). University Scholar in English, 1915-1916; Instructor in English, 1916. English; second year. | | |
| Blackstone, Alva E. | Philadelphia | 5820 Webster St. |
| B.S., A.M. (Ohio University, 1911; Pennsylvania, 1916). Instructor in Commerce, Portsmouth, Ohio, High School, 1911-1913; Drexel Institute, 1913-1914. Instructor in History, Girard College, 1914-1915. Instructor in Commerce, West Philadelphia High School for Boys, 1915. Economics; second year. | | |
| Blevins, Roly Presley | Wilkesboro, N. C. | [Crozer Theological Seminary, Chester] |
| A.B. (Wake Forest College, 1912). Sociology; second year. | | |
| Bligh, Julia Morum | Warsaw, N. Y. | 808 S. 49th St. |
| A.B. (Cornell, 1902). Teacher of Mathematics, William Penn High School for Girls, Philadelphia. Mathematics, Sociology; second year. | | |
| Boeshore, Irwin | Lickdale | Botanical Hall, U. of P. |
| B.S. (Pennsylvania, 1915). Assistant in Botany, 1915. Botany; second year. | | |

Name.	Residence.	City Address.
Bolton, T. Coulston	Philadelphia	3720 Locust St.
B.S. (Pennsylvania, 1913). Instructor in Wharton School, 1915. Economics, History; second year.		
Bossard, James Herbert S.	Allentown	[1311 Hamilton St.]
A.B., A.M. (Muhlenberg, 1909; Pennsylvania, 1911). Assistant Professor, Muhlenberg College, 1911 to date. Sociology; sixth year.		
Bowden, Witt	Rising Star, Tex.	Dorm. 12 Graduate
A.B. (University of Colorado, 1914). Assistant in History, Pennsylvania, 1914. History, Economics; third year.		
Boyer, Philip Albert	Philadelphia	6320 Lawnton Ave.
B.S., A.M. (Temple University, 1906; Pennsylvania, 1915). Holder of Half University Scholarship in Sociology, 1913-1916. Teacher in Philadelphia Public Schools, 1905-1914. Principal of Fayette School, 1914 to date. Education; fifth year.		
Brannock, Willis Herbert	Cambridge, Md.	[Crozer Theological Seminary, Chester]
A.B. (Richmond College, 1916). Sociology; first year.		
Breimeier, Frederic William	Philadelphia	Logan Hall, U. of P.
A.B., A.M. (Bucknell, 1910; Pennsylvania, 1914). Instructor in English, Pennsylvania State, 1910-1913. Instructor in Wharton School, University of Pennsylvania, to date. Political Science, Economics; fourth year.		
Briggs, Robert Louis	Philadelphia	1023 S. 60th St.
B.S. (Pennsylvania, 1916). Teacher in Philadelphia Public Schools, 1912 to date. Mathematics; first year.		
Brigham, Frederick Merrell	Germantown	221 W. Hortter St.
A.B. (Ripon College, 1886). Chemistry; first year.		
Brooks, Florence Ada	Palmyra, N. J.	[410 Leconey Ave.]
A.B. (Ursinus, 1912). Teacher of Science and History, Royersford, Pa., High School, 1912-1913; Teacher of Chemistry, West Philadelphia Girls' High School, 1913 to date. Mineralogy; second year.		
Brown, Reginald William	Bryn Athyn	
A.B. (Academy of the New Church, 1897). Student, University of Chicago, 1903-1905, Summer Sessions of 1907 and 1909. Greek; first year.		
Buckley, Eleanor Claire	Austin, Tex.	[1809 Laraca St.]
A.B., A.M. (Texas, 1909, 1910). University Scholar in History, 1913-1915; Bennett Fellow in History, 1914-1916. Absent on leave.		
Buckley, Florence	Philadelphia	6126 Nassau Road
A.B. (Pennsylvania, 1915). Substitute in Elementary Schools, Philadelphia, 1915. Latin; second year.		

- | Name. | Residence. | City Address. |
|---|-------------------|--|
| Buckman, Howard Mahlon | Hightstown, N. J. | |
| A.B. (Swarthmore, 1914). Teacher of German and History, Hightstown High School, 1914 to date. Education; first year. | | |
| Buermeyer, Laurence Ladd | Reading | [520 Greenwich St.] |
| A.B. (Pennsylvania, 1912). Harrison Scholar in Philosophy, 1912-1913; Harrison Fellow, 1913-1914. Fellow in Philosophy, 1914-1915. Absent on leave; thesis work. | | |
| Burdick, Earle Leslie | Belmont, N. Y. | Girard College |
| B.Ph. (Alfred University, 1916). Instructor, Girard College, 1916. History, Political Science; first year. | | |
| Burk, Emma Louise | Philadelphia | 158 N. 20th St. |
| B.S. (Pennsylvania, 1904). Teacher of Science, Philadelphia High School for Girls, 1907-1912; William Penn High School, 1912-1916; South Philadelphia High School for Girls, 1916. Geography; first year. | | |
| Burriss, Eli Edward, Jr. | Philadelphia | 1902 Pine St. |
| B.S. (Pennsylvania, 1914). Instructor in German and Latin, Conway Hall, 1914-1916. Latin; first year. | | |
| Butterworth, Charles Collier | Mt. Airy | [338 W. Hortter St.] |
| A.B. (Pennsylvania, 1915). English; first year. | | |
| Buzby, Dallas Eyre | Philadelphia | 2051 Christian St. |
| A.B. (Pennsylvania, 1913). Student, Philadelphia Divinity School. Psychology; first year. | | |
| Bye, Raymond Taylor | Langhorne | 354 Logan Hall, U. of P. |
| A.B., A.M. (Swarthmore, 1914; Harvard, 1915). Harrison Fellow in Sociology, 1915-1916. Instructor, University of Pennsylvania, 1916. Economics, Sociology; second year. | | |
| Cadwallader, Carrie Virginia | Philadelphia | 1530 N. 19th St. |
| B.S. (Temple, 1905). Teacher in Philadelphia Public Schools, 1911-1913; Principal of the Morse School, 1913 to date. Education; fourth year. | | |
| Callender, Clarence Newell | Narberth | |
| B.S. (Pennsylvania, 1909). Instructor in Business Law, Wharton School, Pennsylvania, 1910 to date. Political Science, Sociology; second year. | | |
| Campbell, Strather Anderson | Auburn, W. Va. | [Crozer Theological Seminary, Chester] |
| Ph.B. (Dennison University, 1915). Sociology, Education; second year. | | |
| Cannon, Mary Antoinette | Deposit, N. Y. | 2032 Green St. |
| A.B., A.M. (Bryn Mawr, 1907; Columbia, 1916). Economics; first year. | | |

- | Name. | Residence. | City Address. |
|--|-------------------|--|
| Carback, Clarence Herbert | Philadelphia | 2519 E. Dauphin St. |
| B.S. (Temple, 1912). Teacher in Public Schools, 1905-1914. Supervising Principal, Chandler-Gorgas School, Philadelphia, 1914. Education; fifth year. | | |
| Carey, Elsie Packer | Philadelphia | 3320 Arch St. |
| B.S., A.M. (Pennsylvania, 1910, 1914). Instructor in Fine Arts in Gordon School and The Holman School, 1914. Fine Arts; fifth year. | | |
| Carlile, John Snyder | Moorestown, N. J. | |
| A.B. (Park College, 1911). Student, Princeton Theological Seminary, 1911-1913. Psychology; first year. | | |
| Carney, Harry B. | Granville, O. | Dorm. 103 Phillips Brooks |
| A.B. (Cornell, 1916). Assistant in Geography and Industry, 1916. Geography and Industry; first year. | | |
| Carrick, John Lee | Spencer, N. C. | [Crozer Theological Seminary, Chester] |
| A.B. (Wake Forest College, 1913). Associate Principal, Churchland High School, 1913-1914. Sociology, History of Religions, Education; third year. | | |
| Carroll, Franklin Bache | Philadelphia | 617 S. 16th St. |
| B.S., A.M. (Pennsylvania, 1913, 1914). Instructor in Science, Northeast High School, 1912 to date. Thesis work; fifth year. | | |
| Carson, James Holmes | Charlotte, N. C. | Dorm. 225 Baldwin |
| B.S. (Davidson College, 1916). Economics; first year. | | |
| Chambers, Edith | Philadelphia | 739 N. 17th St. |
| A.B. (Vassar, 1914). University Scholar in English, 1914-1915. English; third year. | | |
| Chambers, Margaret Taylor | Tacony | 6739 Torresdale Ave. |
| A.B. (Pennsylvania, 1915). Teacher in the Elementary Schools, Philadelphia, 1915 to date. German; first year. | | |
| Chambers, Raymond L. | Philadelphia | 3 S. 43d St. |
| B.S. (Pennsylvania, 1914). Instructor in Philadelphia Public Schools, 1910 to date. Education, Sociology; third year. | | |
| Chapman, Isaac A. | New York City | Dorm. 41 Graduate |
| B.S., A.M. (New York City College, 1914; Pennsylvania, 1916). Holder of Teaching Fellowship in Drexel Institute, Philadelphia, 1914. Education, Sociology, Psychology; third year. | | |
| Chau, Mann Kong | Canton, China | 3645 Locust St. |
| B.S. (Pennsylvania, 1916). Economics, Political Science; first year. | | |

- | Name. | Residence. | City Address. |
|---|---------------|---------------------------------|
| Chenoweth, Irving Shoemaker | Philadelphia | Northeast Boulevard at 10th St. |
| A.B., A.M., B.D. (Eureka College, 1905, 1907; Union Theological Seminary, 1911). Graduate Student, Columbia University, 1908-1911. Sociology; third year. | | |
| Chew, Samuel Laverell | Philadelphia | 3404 N. 17th St. |
| B.S., A.M. (Temple, 1905; Pennsylvania, 1916). Education; seventh year. | | |
| Chubb, Ethel Leigh | Toronto, Can. | 120 S. 34th St. |
| A.B., A.M. (Toronto, 1906, 1909). Instructor in Latin and Greek, Westminster College, Toronto, 1906-1909. Student, Bryn Mawr College, 1909-1910. Instructor, Girls' High School, 1910 to date. Latin; fifth year. | | |
| Clapp, Amy Lilley | Philadelphia | 3809 Spruce St. |
| A.B., A.M. (Bryn Mawr, 1904; Pennsylvania, 1916). Teacher of Mathematics, Philadelphia High School for Girls, 1907-1916. Head of the Mathematics Department, Southern Girls' High School, 1916. Education; third year. | | |
| Clarke, Elizabeth | Frankford | 1213 Harrison St. |
| A.B. (Cornell, 1909). Teacher of History in Philadelphia High School for Girls, 1909-1912; Northeast Girls' High School, 1912 to date. History, Sociology; first year. | | |
| Clark, Laura Veach | Cecilton, Md. | 203 N. 34th St. |
| A.B. (Western Maryland College, 1905). Instructor in Home Economics, Drexel Institute, Philadelphia, 1914 to date. Education; second year. | | |
| Clarkson, John Leeds | Philadelphia | 5848 Ellsworth St. |
| A.B., A.M. (Dickinson College, 1911, 1912). Teacher of Chemistry, Physics and German, Central Preparatory School, Philadelphia, 1911-1912. Assistant Director and Principal, School of Engineering and Building Construction, 1912-1913. Educational Director, Central Preparatory School, 1913 to date. Education, Sociology; second year. | | |
| Clauder, Anna C. | Philadelphia | 1724 Green St. |
| A.B. (Bryn Mawr, 1905). Teacher of History, William Penn High School, 1909 to date. Holder of a Half University Scholarship in History, 1911-1912. Thesis work. | | |
| Clewell, Clarence Edward | Philadelphia | 4919 Osage Ave. |
| E.E. (Lehigh, 1905). Instructor in Electrical Engineering, Lehigh, 1905-1909; Sheffield Scientific School, Yale, 1912-1914; Assistant Professor, Pennsylvania, 1914 to date. Physics; first year. | | |
| Cliffe, Frank Bailey | Ivyland | Logan Hall, U. of P. |
| B.S. (Pennsylvania, 1916). Instructor in Finance, 1916. Economics; first year. | | |
| Cloud, Elizabeth Valentine | Ardmore | |
| A.B. (Wellesley, 1908). English; first year. | | |

Name.	Residence.	City Address.
Cloud, Rowland Newkirk	Woodbury, N. J.	
A.B. (Nebraska, 1916). Sociology; first year.		
Coburn, John Thomas	Easton, Md.	[Crozer Theological Seminary, Chester]
A.B. (Richmond College, 1916). Sociology; first year.		
Cole, Robert Danforth	Philadelphia	223 S. 40th St.
A.B., A.M. (Bowdoin, 1912, 1912). Instructor in Latin and English, William Penn Charter School, Philadelphia, 1914. Latin; third year.		
Comings, Florence Anne	Middletown, N. Y.	2213 Mt. Vernon St.
A.B. (Mount Holyoke, 1914). Teacher of English, William Penn High School, 1915-1916; South Philadelphia High School, 1916. English; first year.		
Constable, Mary Luise	Philadelphia	120 S. 34th St.
B.S., A.M. (Pennsylvania, 1906, 1915). Instructor in Mathematics in Philadelphia High School for Girls, 1914. Mathematics; fourth year.		
Crawford, Anna Lathrop	Philadelphia	4511 Locust St.
A.B., A.M. (Wellesley, 1907, 1910). Philosophy; seventh year.		
Cromwell, Mary Elizabeth	Washington, D. C.	[1815 13th St., N. W.]
A.B. (Michigan, 1905). Instructor in Mathematics, M Street High School, Washington, D. C. Sociology, Education; fourth year.		
Cromwell, Otelia	Washington, D. C.	[1815 13th St., N. W.]
A.B., A.M. (Smith, 1900; Columbia, 1910). Teacher in Washington Public Schools, 1910 to date. English; second year.		
Crow, Hollie Ernest	Collegeville	
B.S., A.M. (Haverford, 1910; Kansas, 1912). Zoölogy; first year.		
Cullen, Anna M.	Philadelphia	721 N. 40th St.
B.S. (Pennsylvania, 1904). Instructor in Philadelphia High School for Girls, 1906-1912. Instructor in West Philadelphia High School for Girls, 1912 to date. Zoölogy, Sociology; third year.		
Culver, Theodora	Jenkintown	[201 Greenwood Ave.]
A.B. (Wilson, 1916). History, Education, Economics; first year.		
Cundey, Zeta Berenice	Philadelphia	1904 Green St.
B.S., A.M. (Pennsylvania, 1908, 1913). Instructor in English, William Penn High School, Philadelphia, 1909 to date. English; seventh year.		
Dana, Francis Marion	Philadelphia	508 S. 44th St.
A.B. (Macalester, 1916). Latin, History, English; first year.		

- | Name. | Residence. | City Address. |
|--|------------------|--|
| Danehower, Wallace Lysinger | Jeffersonville | |
| A.B., A.M. (Ursinus, 1914; Pennsylvania, 1916). University Scholar in Sociology, 1915-1916. Political Science, History; third year. | | |
| Dannehauer, Christian William | Philadelphia | 2357 E. Susquehanna Ave. |
| A.B. (Colgate, 1915). Sociology, Education; second year. | | |
| Davis, Anna Evelyn | Missoula, Mont. | 303 S. 40th St. |
| A.B. (Montana, 1915). Sociology, Economics; first year. | | |
| Davis, Lemuel Howell | Philadelphia | Dorm. 10 Cleeman |
| B.S., LL.B., A.M. (Pennsylvania, 1901, 1904, 1912). Thesis work; sixth year. | | |
| Davis, Warren Elwood | Philadelphia | 1031 Frankford Ave. |
| B.S. (Pennsylvania, 1915). Chemistry; first year. | | |
| Deckman, Alice Anna | Philadelphia | 3236 Chestnut St. |
| A.B., A.M. (Temple, 1911; Pennsylvania, 1913). Teacher in Elementary Schools, Philadelphia. Latin; sixth year. | | |
| Denny, Helen Florence | Mt. Airy, Phila. | 40 Slocum St. |
| B.S. (Pennsylvania, 1916). English; first year. | | |
| Denworth, Hugh Frederick | West Chester | Dorm. 31 Mask and Wig |
| A.B. (Swarthmore, 1916). Teacher of English, West Chester State Normal School, 1911-1913. Economics, Sociology; first year. | | |
| De Turck, Genevieve | Philadelphia | 1336 N. 54th St. |
| B.S. (Pennsylvania, 1915). Teacher in Philadelphia Public Schools, 1913-1915. Sociology, English; second year. | | |
| Dewling, Walter Franklin | Baltimore, Md. | [Crozer Theological Seminary, Chester] |
| A.B. (Richmond, 1916). Sociology; first year. | | |
| Diehl, Eva Katharine | Philadelphia | 823 Wynnewood Road |
| A.B. (Wellesley, 1915). History; first year. | | |
| Dilks, Clara Gilbert | Philadelphia | 6126 Jefferson St. |
| A.B. (Goucher, 1904). Teacher of History, Philadelphia High School for Girls, 1907 to date. Sociology; fourth year. | | |
| Doan, Charles Shambaugh | Wilmington, O. | 807 N. 41st St. |
| B.S., A.B. (Wilmington College, Ohio, 1911; Swarthmore, 1912). Instructor in Mathematics, Friends' Select School, 1914. Mathematics; third year. | | |

Name.	Residence.	City Address.
Dornheim, Henry Godfrey	Olney	126 E. Fisher's Ave.
A.B. (Temple, 1915). Principal of Fox Chase School, Philadelphia. Sociology; second year.		
Dorrell, Harold MacIlvaine	Alloway, N. J.	[Crozer Theological Seminary, Chester]
Ph.B. (Bucknell, 1914). Sociology, Anthropology; third year.		
Doty, Foster Wood	Salt Point, N. Y.	248 S. Farragut St.
B.S. (Pennsylvania, 1915). Assistant in Finance, 1916. Economics; first year.		
Dowell, Henry Lawrence	Philadelphia	64 N. 34th St.
B.S.C. (McGill University, 1908). Instructor in Mechanical Engineering, University of Pennsylvania, 1916. Political Science; first year.		
Downes, Juanita May	Chester	[813 W. 8th St.]
A.B., A.M. (Swarthmore, 1913; Pennsylvania, 1914). Teacher in Woodbury High School, 1916. Latin; second year.		
Dresser, Henry A.	Spencer, N. Y.	2018 Shunk St.
Ph.B. (Wesleyan University, 1908). Master of French, Penn Charter School 1914. Romanics, Education; third year.		
Dudley, Albert Wesley	Philadelphia	6303 N. 11th St.
B.S. (Temple University, 1915). Principal of the Wheat Sheaf School, 1899-1902; Fox Chase School, 1902-1906; Claghorn School, 1906 to date. Sociology, Education; second year.		
Dudley, Charles Milton	Lawndale	6324 Woodlawn Ave.
B.S., A.M. (Temple 1914; Pennsylvania, 1916). Principal of Lawndale School, 1908-1913; Supervising Principal, General David B. Birney School, 1913 to date. Political Science; third year.		
Duncan, Hannibal Gerald	Moravian Falls, N. C.	
A.B., A.M. (Wake Forest College, 1913; Pennsylvania, 1915). Student, Crozer Theological Seminary, 1913-1914. Absent on leave.		
Duncan, Margaret Steel	Cincinnati, O.	1413 Ontario St.
A.B., A.M. (Bryn Mawr, 1908; Illinois, 1910). Assistant Professor, Temple University, 1914 to date. Romance Languages; first year.		
Earle, Ralph Pennock	Primos	
B.S. in E.E. (Pennsylvania, 1910). Instructor, Philadelphia Trades School. Mathematics, Anthropology; first year.		
Eder, Charles Eduard	Philadelphia	Chestnut Hill Academy
B.A. (St. Stephen's College, 1911). History of Religions, Anthropology, Sociology; second year.		

Name.	Residence.	City Address.
Eitzel, Howard S.	Philadelphia	4552 Baltimore Ave.
A.B., A.M. (Dickinson College, 1911; University of Pennsylvania, 1912). Instructor in Mathematics, Phillips Brooks School, 1911-1913; Head Master, 1913 to date. Sociology; sixth year.		
Elwell, Nelson Leroy	Philadelphia	1232 N. 6th St.
B.S. (Pennsylvania, 1914). Student in Law School, 1913-1915. Instructor in Business Law, 1913 to date. Political Science, Economics; first year.		
Elwell, Theodora Stubb	Philadelphia	1933 Wallace St.
A.B. (Vassar, 1915). Assistant, Social Service Department, Department of Psychology, University of Pennsylvania, 1916. Psychology; first year.		
Emerson, Josephine Burt	Lebanon, N. H.	6063 Drexel Road Overbrook
A.B. (Smith College, 1908). Teacher of Mathematics, Miss Sayward's School, Overbrook, 1913 to date. Mathematics, English, Education; third year.		
Englehardt, Fred	Philadelphia	3607 Walnut St.
Ph.B., A.M. (Yale, 1909; Columbia, 1915). Science Master, William Penn Charter. Education, Sociology, Economics; first year.		
Engle, Price Bowman	Philadelphia	4699 Castor Road
B.S. (Temple University, 1914). Teacher, Public Schools, 1905-1913; School of Practice, Philadelphia, 1913 to date. Sociology; third year.		
Ennis, Howard T.	New Castle, Del.	
A.B. (Delaware, 1912). Education; first year.		
Evans, Florence	Merion	
A.B., A.M. (Wellesley College, 1902; Pennsylvania, 1913). Instructor, West Philadelphia High School for Girls, 1914. History; eighth year.		
Faries, Elizabeth	Chestnut Hill	[7806 Cresheim Road]
A.B. (Bryn Mawr, 1912). Teacher in the True Light Seminary, Canton, China, 1913-1916. Education, Psychology; first year.		
Faries, Henry Gerhart	Chestnut Hill	[7806 Cresheim Road]
A.B. (Pennsylvania, 1915). Sociology; second year.		
Faries, Randolph, 2d	Chestnut Hill	[7806 Cresheim Road]
A.B., A.M. (Pennsylvania, 1911, 1913). Instructor, Germantown High School, 1915 to date. English; fourth year.		
Fieldbrave, Theodore	Allahabad, India	[Crozer Theological Seminary, Chester]
A.B. (Colby, 1916). Anthropology, History of Religions; first year.		

- | Name. | Residence. | City Address. |
|--|-----------------|--|
| Finck, Theodore Kretschmann | New Market, Va. | 7301 Germantown Ave. |
| A.B. (Muhlenberg, 1915). Philosophy; second year. | | |
| Fisher, Charles Adam | Norwood | |
| A.B. (Ursinus, 1914). Teacher in the Royersford High School, 1914 to date. Education; second year. | | |
| Fisher, Charles Henry | West Chester | [509 W. Miner St.] |
| A.B., B.D., A.M. (Lebanon Valley College, 1904; Union Theological Seminary, 1907; Pennsylvania, 1914). Head of History Department, Trenton High School, 1914; West Chester State Normal School, 1915. Education; sixth year. | | |
| Fisher, Jacob Moyer | Ambler | |
| A.B. (Ursinus, 1912). Supervising Principal of the Ambler Schools, 1912 to date. Education; third year. | | |
| Fisher, Ralph De Haven | Chestnut Hill | [Crozer Theological Seminary, Chester] |
| B.S. (Pennsylvania State, 1916). Sociology; first year. | | |
| Fittz, Raymond Underwood | Natick, Mass. | 64 N. 34th St. |
| B.S. (Tufts College, 1915). Instructor in Engineering Department, University of Pennsylvania, 1916. Political Science; first year. | | |
| Fitzpatrick, Joseph Raymond | Xenia, O. | 210 S. 36th St. |
| A.B., A.M. (Cedarville College, 1904, 1907). Instructor in Chemistry, Pennsylvania, 1909 to date. Thesis work; eighth year. | | |
| Fleischmann, Charlotte Chafer | Sharon Hill | [39 Bonsall Ave.] |
| B.S. (Pennsylvania, 1914). Absent on leave. | | |
| Flomenhoft, Morris | Philadelphia | 2136 S. 4th St. |
| A.B. (Pennsylvania, 1914). Latin; first year. | | |
| Fogg, Helen Moore | Philadelphia | 1015 S. 47th St. |
| B.L. (Swarthmore, 1899). English; first year. | | |
| Foote, John Wesley | Philadelphia | 1520 S. 28th St. |
| A.B. (Temple, 1916). Teacher in the Philadelphia Public Schools, 1912 to date. Education; first year. | | |
| Foster, Blanche | Philadelphia | 232 W. Walnut Lane |
| A.B. (Smith, 1916). English; first year. | | |
| Foulkrod, Emily | Philadelphia | 1534 Harrison St., Fkd. |
| A.B. (Pennsylvania, 1912). Teacher, Philadelphia Public Schools, 1896 to date. Indo-European Philology, Latin; fifth year. | | |

- | Name. | Residence. | City Address. |
|---|--------------------|--|
| Fox, Samuel S. | Glassboro, N. J. | |
| A.B. (Muhlenberg, 1913). Principal of High School, Glassboro, N. J., 1913 to date. English; third year. | | |
| France, Harry Clinton | Seward, N. Y. | 3529 Locust St. |
| A.B. (Connecticut Wesleyan, 1913). English; second year. | | |
| Frantz, Jasper C. | Friendsville, Md. | [Crozer Theological Seminary, Chester] |
| A.B. (Bucknell, 1914). Student, Crozer Theological Seminary, Chester, 1914. Sociology, Anthropology; third year. | | |
| Frantz, Lillian | Wilkes-Barre | 120 S. 34th St. |
| A.B. (Syracuse, 1912). Teacher in West Philadelphia Girls' High School, 1913 to date. English; fourth year. | | |
| Frasca, Michele | Ambler | 1246 S. Carlisle St. |
| A.B. (Pennsylvania, 1912). Sociology; third year. | | |
| Fry, Eleanor Johnston | Philadelphia | 4828 N. Carlisle St. |
| A.B. (Vassar, 1914). Sociology; third year. | | |
| Gendell, Annie Ashbrook | Philadelphia | 835 N. 63d St. |
| A.B. (Bryn Mawr, 1907). Teacher, William Penn High School, 1909 to date. Greek; third year. | | |
| George, Ralph Everett | Walla Walla, Wash. | Dorm. 35 Graduate |
| A.B. (University of Pittsburgh, 1912). Professor at Whitman College, Walla Walla, Wash., 1914. Economics, History; second year. | | |
| Gerges, Wesley R. | Royersford | |
| B.S. (Ursinus, 1911). Teacher of Chemistry, Pennsylvania State Normal School, Mansfield, 1914. Chemistry, Mathematics; third year. | | |
| Gerhard, Elmer Schultz | Philadelphia | 5352 Wingohocking Ter. |
| A.B., A.M. (Princeton, 1900, 1901). Instructor in German, Northeast High School, Philadelphia, 1914. Germanics; fifth year. | | |
| Gillingham, Frank Truscot | Philadelphia | 3526 N. 22d St. |
| B.S. (Colby College, 1914). Student, Crozer Theological Seminary, Chester, Pa. Sociology, History of Religions; third year. | | |
| Gilmore, James | Philadelphia | 2031 N. Howard St. |
| A.B. (Princeton, 1906). Instructor and Assistant Professor of English Literature, Central High School, 1906 to date. History, Economics, Political Science; first year. | | |

Name.	Residence.	City Address.
Gilmour, William Rodger A.B. (Princeton, 1913).	Philadelphia Medical Sciences; first year.	4511 Osage Ave.
Gobble, Sarah Grace A.B. (Albright, 1910). English, Education; first year.	Myerstown Teacher of English, Cheltenham High School, 1916.	443 Wister St.
Goldstein, Philip R. A.B., A.M. (Cornell, 1913; Pennsylvania, 1916).	Rosenhayn, N. J. Political Science, Education; third year.	
Goodman, Hannah A.B., A.M. (Bucknell, 1903, 1903).	Philadelphia Teacher, Haddon Heights High School, 1914.	1306 S. 53d St.
Gordon, William Duncan B.S. (Pennsylvania, 1916).	Philadelphia Economics; first year.	4712 Richmond St.
Goshow, Mildred B.S. (Pennsylvania, 1913). 1915; Swedesboro, N. J., 1915 to date.	Roxborough Teacher in High School, Laurel, Del., 1914-1915; Psychology; second year.	[428 Conarroe St.]
Grafton, Elvah Harley B.S., M.S. (Buchtel College, 1911, 1913).	Barberton, O. Instructor in Chemistry, Pennsylvania, 1914.	Dorm. 40 Graduate Chemistry; fourth year.
Graham, Leslie Worthington B.S. (Pennsylvania, 1913).	Philadelphia University Scholar in Zoölogy, 1912-1914.	4828 Walton Ave. Zoölogy; fourth year.
Granger, Clifford Elzer Ph.B. (Wisconsin, 1916).	Peshtigo, Wis. Graduate Student, Wisconsin, 1915-1916; Instructor in the Wharton School, 1916.	217 S. 33d St. Economics; first year.
Green, Herman Eugene A.B., A.M. (Temple, 1914; Pennsylvania, February, 1917).	Philadelphia Teacher, Southwark Grammar School, 1908-1914; West Philadelphia Boys' High School, 1914 to date.	3319 N. 17th St. English; third year.
Griest, Katharine A.B. (Swarthmore, 1908).	Germantown Instructor, Friends' Central School, 1911-1914; Cheltenham High School, 1914 to date.	5239 Archer St. Education; second year.
Groff, Margaret Beaver A.B., A.M. (Bucknell, 1904; Pennsylvania, 1915).	West Chester Teacher in West Chester High School, 1911 to date.	[320 N. Matlack St.] Mathematics; fifth year.
Guilder, Ruth Pierce B.S. (Simmons College, 1911).	Philadelphia Anatomy; second year.	4235 Sansom St.

- | Name. | Residence. | City Address. |
|--|-------------------|----------------------|
| Guthrie, John | Philadelphia | 5702 Warrington Ave. |
| B.S. (Pennsylvania, 1914). Teacher, Philadelphia Public Schools, 1910 to date. Political Science, History; third year. | | |
| Haas, Francis Buchman | Philadelphia | 6206 Ogontz Ave. |
| B.S. (Temple University, 1913). Education; third year. | | |
| Hadley, Lora | Canon City, Col. | 120 S. 34th St. |
| A.B. (Iowa, 1916). Psychology; first year. | | |
| Hagemann, George Edward | Philadelphia | 1017 S. Ithan St. |
| B.S. in M.E. (Rutgers, 1912). Instructor in Mechanical Engineering, University of Pennsylvania, 1913 to date. Political Science; first year. | | |
| Haigh, Emma M. | Ardmore | [5 Masonic Ave.] |
| B.S., A.M. (Columbia, 1909; Pennsylvania, 1911). Half University Scholar in Germanics, 1913-1914; Teacher in the Philadelphia High School for Girls. Romanics; sixth year. | | |
| Haines, Elwood Lindsay | Swedesboro, N. J. | 5000 Woodland Ave. |
| A.B. (Pennsylvania, 1916). English; first year. | | |
| Haines, Jay Wilbur | Germantown | 4628 Wayne Ave. |
| B.S. (Pennsylvania, 1914). Instructor in McIntyre Grammar School, 1914. Mathematics; second year. | | |
| Halloran, Edward J. | Worcester, Mass. | 3727 Locust St. |
| A.B. (Pennsylvania, 1914). Economics, Anthropology; second year. | | |
| Hallowell, Alfred Irving | Philadelphia | 1934 N. Marvine St. |
| B.S. (Pennsylvania, 1914). Sociology; first year. | | |
| Hamer, Philip May | Marion, S. C. | Dorm. 43 Graduate |
| A.B., A.M. (Wofford College, 1912; Trinity College, 1915). Harrison Scholar in History, 1915-1916; Assistant in History, 1916. History, Political Science; second year. | | |
| Hance, Robert Theodore | Cincinnati, O. | Dorm. 41 Morgan |
| A.B., A.M. (Cincinnati, 1913, 1914). Harrison Fellow in Zoölogy, 1915-1916; Assistant in Zoölogy, 1916. Zoölogy; third year. | | |
| Hanley, Bessie Graham | Philadelphia | 1737 N. Park Ave. |
| B.S. (Pennsylvania, 1908). Philadelphia Normal School, 1905 to date. Education; second year. | | |
| Harbeson, William Page | Germantown | 132 W. Walnut Lane |
| B.S., LL.B. (Pennsylvania, 1906, 1910). Instructor in English, Pennsylvania, 1909 to date. English; sixth year. | | |

- | Name. | Residence. | City Address. |
|---|-----------------|--|
| Harris, Estella Dunnells | Elkins Park | |
| A.B. (Vassar, 1908). English, German; third year. | | |
| Harris, Hannah | Coshocton, Q. | [383 Main St., Moorestown, N. J.] |
| A.B. (Barnard College, 1914). Instructor in Latin, Newark, N. J., Seminary, 1914-1915; Moorestown, N. J., High School, 1916. Education; first year. | | |
| Harrower, David Elson | Swarthmore | |
| B.S. (Pennsylvania State College, 1913). Mineralogy; second year. | | |
| Hart, John Robbins, Jr. | Philadelphia | 3706 Locust St. |
| B.S., A.M. (Pennsylvania, 1911, 1914). Economics, History; third year. | | |
| Hart, Olive Ely | Philadelphia | 5720 Thomas Ave. |
| B.S. (Pennsylvania, 1913). Instructor in English, William Penn High School for Girls, 1910 to date. English; first year. | | |
| Hartman, Franklin Oscar | Woodbine, N. J. | |
| A.B. (Franklin and Marshall, 1898). Instructor in High School, Franklin, Pa., 1899-1901; Principal of Schools, Sinking Spring, Pa., 1902-1907; Supervising Principal of Schools, Woodbine, N. J., 1907 to date. Education; second year. | | |
| Hawkins, Robert Dawson | Lexington, Ky. | [Ridley Park] |
| B.M.E. (Kentucky University, 1915). Instructor in Engineering, University of Pennsylvania, 1916. Political Science; first year. | | |
| Heine, Ferdinand | Lancaster | Dorm. 244 Lippincott |
| A.B. (Franklin and Marshall, 1916). Economics; first year. | | |
| Henderson, Charles Strother | Calhoun, Ga. | [Crozer Theological Seminary, Chester] |
| A.B., A.M. (Mercer University, 1913; Pennsylvania, 1916). History of Religions; third year. | | |
| Henderson, Margaret W. | Philadelphia | 3317 N. Smedley St. |
| B.S., A.M. (Pennsylvania, 1912, 1913). Research Assistant to Dr. Reichert, 1913-1915. Botany; fourth year. | | |
| Hendrix, Clara Belle | Lewisburgh, O. | 257 S. 44th St. |
| A.B. (Otterbein, 1913). English, Education; first year. | | |
| Henshaw, Jay Irvin | Lansdowne | [51 Windemere Ave.] |
| Ph.B. (Lafayette, 1913). Vice-Principal, Lansdowne High School, 1913 to date. Physics; first year. | | |

- | Name. | Residence. | City Address. |
|--|------------------------|-----------------------------------|
| Henwood, Abraham | Cynwyd | [306 Kent Road] |
| B.S., M.S. (Pennsylvania, 1901, 1916). Instructor and Professor of Chemistry, Drexel Institute, Philadelphia, 1892 to date. Physiology; third year. | | |
| Heritage, Jacob Paul | Vineland, N. J. | |
| B.S. (University of Pennsylvania, 1910). Economics; second year. | | |
| Hicks, Philip Marshall | Avondale | |
| A.B., A.M. (Swarthmore, 1905, 1913). Assistant in Public Speaking, Swarthmore, 1911 to date. English; first year. | | |
| Higgins, Helen Taylor | White Marsh | |
| B.S. (Pennsylvania, 1900). Teacher in Biology, Philadelphia High School for Girls, 1901-1915; Germantown High School for Girls, 1915 to date. Zoölogy; third year. | | |
| Hinman, Earl Edward | Swarthmore | [218 Lafayette Ave.] |
| B.S. (Bucknell, 1911). Instructor, Swarthmore High School, 1914 to date. Education; first year. | | |
| Hoagland, Horace W. | Lambertville,
N. J. | Dorm. 25 Graduate |
| B.S. (Pennsylvania, 1911). History; second year. | | |
| Hoffman, M. David | Newark, N. J. | 2135 N. 13th St. |
| A.B. (Columbia, 1915). Instructor, West Philadelphia High School, 1915 to date. Education; second year. | | |
| Hoffsten, Ruth B. | Philadelphia | 1542 Wallace St. |
| A.B. (Cornell, 1910). Teacher of Latin, Philadelphia High School for Girls, 1914. Sociology; third year. | | |
| Hokman, Gertrude Marie | Elkins, W. Va. | 811 N. 21st St. |
| A.B. (Davis and Elkins College, 1916). English, Education; first year. | | |
| Holland, Dorothy Stebbins | Belchertown,
Mass. | [16 E. Lancaster Ave.
Ardmore] |
| A.B. (Wellesley College, 1899). Instructor, Lower Merion High School English; fourth year. | | |
| Holland, Leicester Bodine | Philadelphia | 2006 Chestnut St. |
| B.S., B.S. in Architecture (Pennsylvania, 1902, 1904). Instructor in Design, Pennsylvania, 1914. History; third year. | | |
| Hollinger, Archie Reed | Gettysburg | |
| A.B. (Gettysburg, 1915). English; first year. | | |

- | Name. | Residence. | City Address. |
|---|---------------------|--|
| Holmes, Mabel Dodge | Philadelphia | 46th and Walnut Sts. |
| A.B., A.M. (Vassar, 1904; Pennsylvania, 1912). Teacher, William Penn High School. English, History; fifth year. | | |
| Homer, Francis Edward | Philadelphia | 3526 N. 16th St. |
| B.S., A.M. (Temple, 1911; Pennsylvania, 1913). Supervising Principal, Mifflin School, Philadelphia. Sociology; fifth year. | | |
| Hourwich, Nicholas I. | Brooklyn, N. Y. | 417 N. 33d St. |
| Graduate of Real School, Minsk, Russia, 1899; A.M. (Pennsylvania, 1916). University Scholar in Economics, 1914-1916. Absent on leave, first term. | | |
| Hoy, Joseph Reason | Newell, W. Va. | [Crozer Theological Seminary, Chester] |
| Ph.B. (Denison University, 1915). Education, Sociology; second year. | | |
| Hudson, James Jones, Jr. | Philadelphia | 1237 S. 52d St. |
| B.S. (Pennsylvania, 1914). Teacher, Comegys Public School, 1910-1916. Instructor in English, West Philadelphia Boys' High School, 1916 to date. English; third year. | | |
| Hudson, Margaret | Philadelphia | 2111 W. Berks St. |
| A.B. (Bryn Mawr, 1909). Instructor in West Philadelphia High School, 1914 to date. Romanics; first year. | | |
| Huff, Thomas Ellwood | Philadelphia | 6037 Lansdowne Ave. |
| B.S. (Pennsylvania, 1907). Mathematics, Physics; second year. | | |
| Hughes, Asa Malcolm | Hamilton, N. Y. | 3226 Ridge Ave. |
| A.B., A.M. (Colgate, 1906, 1911). Assistant in Classics, Colgate, 1906-1911. Teacher in Boys' Collegiate School, Pittsburgh, 1912-1913. Teacher in Boys' High School, Reading, 1913-1915. Teacher, Northeast High School, Philadelphia. History; second year. | | |
| Humpstone, Henry Judson | Westfield, N. J. | 428 Conarroe St. |
| A.B., A.M. (University of Rochester, 1906, 1912). Assistant in Psychology, Pennsylvania, 1914. Psychology; third year. | | |
| Hunsberger, Jesse L. | Mullica Hill, N. J. | |
| A.B. (Ursinus, 1911). Principal of Schools, Mullica Hill, N. J., 1911 to date. Education; first year. | | |
| Hutchinson, Magdeleine C. | Philadelphia | 459 Hansbury St. |
| Licencé-ès-lettres (University of Paris). Instructor in French, Wellesley College, 1907-1910; Associate Professor, 1911-1914; Acting Head of the Department, 1913-1914. Romanics; second year. | | |

- | Name. | Residence. | City Address. |
|--|-----------------|--|
| Ide, Gladys Genevra | Seattle, Wash. | 3911 Woodland Ave. |
| A.B., A.M. (University of Washington, 1915, 1915). Psychology, Philosophy; first year. | | |
| Janvier, Ernest Paxton | Madison, N. J. | 964 S. Paxton St. |
| A.B., A.M. (Princeton, 1911, 1916). Student, Theological Seminary, Princeton, 1913-1916. Teacher in Ewing Christian College, India, 1911-1913. Semitics, History of Religions; first year. | | |
| Jaquette, Helen | Philadelphia | 1834 Wallace St. |
| A.B. (Wisconsin, 1910). Teacher, William Penn High School, 1913-1915; Frankford High School, 1915 to date. History; first year. | | |
| Jason, William Barrington | Philadelphia | 2016 Tasker St. |
| A.B., A.M. (Howard College, 1913; Pennsylvania, 1915). Astronomy; fourth year. | | |
| Jeremiah, David Bowen | Philadelphia | 210 S. 36th St. |
| B.S. (Pennsylvania, 1915). Assistant in Finance, Pennsylvania, 1915. Economics; second year. | | |
| Johnson, Edith Mae | Philadelphia | 2413 N. 29th St. |
| A.B. (Goucher, 1913). Permanent substitute in English and History, Germantown High School for Girls, 1915. History, History of Religions; second year. | | |
| Johnson, Douglass Montgomery | Philadelphia | 1520 S. 54th St. |
| B.S., A.M. (Northwestern, 1911; Pennsylvania, 1916). Instructor in Wharton School, Pennsylvania, 1914 to date. Economics; fourth year. | | |
| Johnson, Owen Dean | Philadelphia | 4714 N. 13th St. |
| B.S., A.M. (Pennsylvania, 1911, 1914). Instructor, Philadelphia Trades School, 1912-1913. Instructor in Southern High School, 1913 to date. Mathematics; fifth year. | | |
| Jones, John Owen | Lebanon | [Crozer Theological Seminary, Chester] |
| A.B. (Lebanon Valley College, 1915). Sociology; second year. | | |
| Jones, Joseph Franklin | Philadelphia | 6324 N. 21st St. |
| A.B. (Dickinson, 1908). Instructor in English, Germantown High School, 1916. English; first year. | | |
| Joy, Leslie Wells | Brooklyn, N. Y. | Dorm. 41 Thomas Penn |
| B.S. (Pennsylvania, 1916). English, Romanics; first year. | | |
| Karsner, Eleanor Fulton | Philadelphia | 1320 S. Broad St. |
| B.S., A.M. (Pennsylvania, 1905, 1914). Instructor in Biology, Girls' High School, Philadelphia. Anthropology, Economics; sixth year. | | |

- | Name. | Residence. | City Address. |
|---|-------------------|------------------------|
| Kauffman, Rose M. | Dunkirk, N. Y. | 917 S. 49th St. |
| A.B. (Allegheny, 1910). Graduate Student, Cornell, 1911; Columbia, 1913. Teacher in Kingston High School, 1910-1913. Teacher of History, Northeast High School for Girls, Philadelphia, 1914 to date. History; second year. | | |
| Keim, Jeanette | Cynwyd | |
| A.B., A.M. (Wellesley, 1909; Pennsylvania, 1912). Political Science, Economics, Sociology; third year. | | |
| Keir, John S. | Seymour, Conn. | 3508 Hamilton St. |
| A.B., A.M. (Wesleyan, 1914; Pennsylvania, 1916). Instructor in Industry, Pennsylvania, 1914 to date. Sociology, Economics; third year. | | |
| Keir, Robert Malcolm | Philadelphia | 5121 Kingsessing Ave. |
| B.S., A.M. (Pennsylvania, 1911, 1913). Instructor in Industry, 1911 to date. Economics; fifth year. | | |
| Kelley, Edwin Terrence | Independence, Mo. | 122 S. 33d St. |
| A.B., A.M. (University of Missouri, 1915, 1916). Assistant in History, Missouri, 1915-1916. History; first year. | | |
| Kephart, Adam Perry | Philadelphia | 3808 Spruce St. |
| A.B., A.M. (Leander Clark, 1904, 1912). University Scholar in Psychology, 1915-1916; Instructor, Drexel Institute, 1915-1916; Assistant in Psychology, Pennsylvania, 1916. Psychology, Education, Sociology; third year. | | |
| Kephart, Margaret Dill | Philadelphia | 3808 Spruce St. |
| A.B. (Hood College, 1911). Psychology, Education; first year. | | |
| Kerns, Morey Vansant | Philadelphia | 2526 S. Cleveland Ave. |
| A.B. (Temple, 1903). Supervising Principal of McKean School, Philadelphia. Philosophy; eighth year. | | |
| Kerr, Margaret | Philadelphia | 135 W. Wyoming Ave. |
| A.B. (Swarthmore, 1914). Sociology; third year. | | |
| Kiefer, Paul James | Philadelphia | 5528 Angora Ave. |
| A.B., B.S. in M.E. (Wittenberg, 1908; Case School of Applied Science, 1911). Instructor in Engineering, University of Pennsylvania, 1913 to date. Political Science; first year. | | |
| Kiermeier, Anna Barbara | Camden, N. J. | [594 Benson St.] |
| B.S. (Columbia University, 1914). English; first year. | | |
| Kimball, Elizabeth Garner | Philadelphia | 5148 Wayne Ave. |
| A.B. (Radcliffe, 1903). Teacher, Philadelphia High School for Girls, 1910 to date. English; first year. | | |

- | Name. | Residence. | City Address. |
|--|----------------------|-------------------------------------|
| Kirrane, William Joachim | Philadelphia | 4178 Paul St. |
| B.S. (Pennsylvania, 1914). Instructor, Catholic High School, 1914 to date. Psychology; second year. | | |
| Kishimoto, Kumataro | Okayamaken,
Japan | 5755 Hazel Ave. |
| Bachelor's degree from University of Kioto, Japan, 1909. Economics; first year. | | |
| Klein, Gertrude | Philadelphia | 1512 Oxford St. |
| A.B. (Bryn Mawr College, 1904). Graduate Student, Bryn Mawr, 1905. Teacher, Philadelphia High School for Girls, 1905 to date. Education; third year. | | |
| Klonower, Henry | Philadelphia | 1435 Euclid Ave. |
| B.S. (University of Pennsylvania, 1915). Teacher in Blaine School, 1910-1915; Training Teacher, School of Pedagogy, 1915 to date. Sociology; second year. | | |
| Knapp, Wilma Harriette S. | Norristown | [Apt. 104, The Norris] |
| B.S. (Bucknell, 1914). English; first year. | | |
| Knight, Charles Kelley | Philadelphia | 4225 Regent St. |
| A.B., A.M. (Ohio University, 1912, 1913). Instructor, Pennsylvania State, 1915-1916; Instructor in Economics, Pennsylvania, 1916. Economics; first year. | | |
| Kochenderfer, Harry Wayne | Linfield | |
| A.B., A.M. (Ursinus, 1901; Pennsylvania, 1911). University Scholar in History, 1910-1913. Instructor, Central High School, Philadelphia, 1913 to date. Absent on leave. | | |
| Kramer, Frank Henry | W. Hoboken,
N. J. | [317 W. Union St., West
Chester] |
| A.B., A.M. (Gettysburg, 1914; Pennsylvania, 1916). Instructor, West Chester High School, 1914. Sociology, Education; third year. | | |
| Kreider, Wilmer Austin | Darby | [1112 Main St.] |
| A.B., A.M. (Franklin and Marshall, 1911; Pennsylvania, 1913). Supervising Principal of Schools, Birdsboro, 1911-1914; Superintendent of Darby Public Schools, 1914 to date. Half University Scholar in Education, 1915-1916. Education; fourth year. | | |
| Kuhns, John | Philadelphia | 1010 Clinton St. |
| B.S. (Haverford, 1916). Sociology, Economics, History; first year. | | |
| Kumler, Ralph W. | DeGraff, O. | 3735 Locust St. |
| A.B. (Wittenberg, 1913). Chemistry; first year. | | |

- | Name. | Residence. | City Address. |
|--|-------------------|----------------------|
| Lackey, Josephus Yeakel | Philadelphia | 4541 Manayunk Ave. |
| B.S. (Pennsylvania, 1915). Mineralogy; second year. | | |
| Ladd, Mary Ethel | Philadelphia | 4619 Locust St. |
| A.B. (Bryn Mawr College, 1910). Teacher of English, Philadelphia High School for Girls, 1912; West Philadelphia High School for Girls, 1912 to date. English; second year. | | |
| Lady, Clyde H. | Swarthmore | [211 College Ave.] |
| A.B. (Columbia, 1916). Teacher of Mathematics, Swarthmore High School. Education; first year. | | |
| Lamdenmann, Moses | Russia | 3130 W. Clifford St. |
| Student at University of Berlin and University of Florence, 1913-1915. Romanics; second year. | | |
| Lansburgh, Richard Hines | Washington, D. C. | Dorm. 34 Bodine |
| B.S., A.M. (Pennsylvania, 1915, 1916). Assistant in Geography and Industry, Pennsylvania, 1915. Economics; second year. | | |
| Laurie, Frank Alan, Jr. | Corry | Dorm. 20 Graduate |
| B.S., A.M. (Pennsylvania, 1909, 1915). Instructor in French and English, 1911 to date. English; fifth year. | | |
| Law, Margaret Lathrop | Germantown | [5449 Greene St.] |
| A.B. (Wellesley, 1912). English, History, Fine Arts; first year. | | |
| Lawley, Marsden | Philadelphia | 5854 Washington Ave. |
| B.S. (Pennsylvania, 1916). Teacher in Philadelphia Public Schools, 1909 to date. History; first year. | | |
| Learned, Henry Dexter | Philadelphia | 4406 Pine St. |
| A.B. (Pennsylvania, 1912). Instructor in German, Dickinson College, 1912-1913; Instructor in German, University of Pennsylvania, 1913 to date. Rosengarten Traveling Scholarship in Germanics, 1914-1915. English; third year. | | |
| Lefferts, Walter | Philadelphia | 222 S. 53d St. |
| A.B., B.S. (Illinois Wesleyan University, 1901; Temple, 1905). Instructor in Economic Geography, Temple University, Philadelphia, 1914. Thesis work; eleventh year. | | |
| Lehman, Edith Marie | Annville | [Lansdale] |
| A.B. (Lebanon Valley, 1913). English, German; first year. | | |
| Iehman, Howard Alfred | Dayton, O. | 208 S. 43d St. |
| LL.B., B.S. (Pennsylvania, 1913, 1915). Lecturer in Law School, Pennsylvania, 1914-1915; Instructor in Finance, 1915 to date. Sociology; Philosophy; second year. | | |

Name.	Residence.	City Address.
Leighninger, William Blaine	W. Lafayette, O.	210 S. 36th St.
A.B., A.B., A.M. (West Lafayette College, 1904; Ohio State, 1906, 1911). Fellow in Chemistry, Ohio State, 1910-1911. Instructor in Chemistry, Pennsylvania, 1911 to date. Thesis work; sixth year.		
Lewis, Lucy	Philadelphia	1535 Pine St.
A.B. (Bryn Mawr, 1893). Teacher of History, Philadelphia High School for Girls. Economics, Political Science; sixth year.		
Linton, Anne	Philadelphia	434 S. 40th St.
B.S., A.M. (Pennsylvania, 1912, 1913). Instructor in Mathematics, Philadelphia High School for Girls, 1905 to date. Education; third year.		
Linton, Elizabeth	Philadelphia	434 S. 40th St.
B.S., A.M. (Pennsylvania, 1912, 1913). Instructor in Mathematics, Philadelphia High Schools for Girls, 1906 to date. Education; third year.		
Lodor, Elmira	Philadelphia	120 S. 34th St.
B.S., A.M. (Pennsylvania, 1915, 1916). Teacher, Philadelphia High School for Girls. Psychology, Economics; second year.		
Long, Edward Fauver	Philadelphia	2218 N. Camac St.
A.B., A.M. (Blue Ridge College, 1911; Kansas, 1915). Harrison Scholar in English, Second Term, 1911-1912. Head of English Department, Wilmington High School, 1916. English; second year.		
Longdon, Francis Morton	Philadelphia	603 66th Ave.
A.B. (Bethany College, 1915). English, Sociology; second year.		
Longstreth, Edward	Philadelphia	1631 Locust St.
A.B. (Yale, 1916). English, History; first year.		
Lowry, William John	Philadelphia	1738 Erie Ave.
B.S. (Temple, 1914). Principal, H. B. Hackett School, Philadelphia, 1913 to date. Education; third year.		
Lucey, Anna Margaret	Little Falls, N. Y.	834 S. 49th St.
A.B. (New York Teachers' College, 1915). History, Political Science; first year.		
Lungren, Eleanor Shields	Philadelphia	3733 Brown St.
B.S. (Temple, 1915). Teacher, Philadelphia Normal School, 1899 to date. Economics, Sociology; second year.		
Ly, Juwan Usang	Canton, China	Dorm. 27 Graduate
A.B., B.C.S., A.M. (Kwang Chow, 1904; New York University, 1912; Columbia, 1913). Thesis work; fourth year.		

- | Name. | Residence. | City Address. |
|--|-------------------|--|
| Lyon, Margaret Carrier | Providence, R. I. | 1629 Spruce St. |
| A.B. (Brown, 1909). Teacher in Providence High School, 1909-1911; Miss Hill's School, Philadelphia, 1911-1913; Agnes Irwin School, 1913-1915. History; second year. | | |
| McAnally, James Alexander | Philadelphia | 3609 Locust St. |
| B.S. (Pennsylvania, 1914). University Scholar in Philosophy, 1914-1916; Assistant in English, 1916. Philosophy, Mathematics; third year. | | |
| McCall, Maude Burt | Overbrook | [817 Wynnewood Road] |
| B.S. (Pennsylvania, 1915). English; first year. | | |
| McCaulley, Mariana | Germantown | 5320 Wayne Ave. |
| A.B., A.M. (Cornell, 1912, 1912). Teacher in Latin, Camden, N. J., High School, 1912-1916; Frankford High School, 1916. Latin; first year. | | |
| MacCoy, Mary Helen | Philadelphia | 5800 Overbrook Ave. |
| A.B. (Bryn Mawr College, 1900). Teacher in Miss Wright's School, 1902-1905; 1908-1912. East End Preparatory School, 1905-1906. Sociology; second year. | | |
| McCrea, Ludo Bent | Fair Haven, N. Y. | 3421 Walnut St. |
| B.S. (Pennsylvania, 1916). Romanics; first year. | | |
| McDonald, Brown | Mt. Zion, W. Va. | [Crozer Theological Seminary, Chester] |
| A.B. (West Virginia University, 1914). Sociology; third year. | | |
| MacElree, Helen | West Chester | |
| A.B. (Bryn Mawr, 1915). Education; first year. | | |
| McGonigle, John Futchner | Philadelphia | 7132 N. Broad St. |
| B.S. (Temple, 1916). History; first year. | | |
| MacMillan, Robert | Philadelphia | 301 E. Upsal St. |
| B.S. (Temple, 1915). Supervising Principal, Joseph C. Gilbert School, Philadelphia, 1915. Education, Sociology; second year. | | |
| MacPherson, William Bradner | Philadelphia | 4826 Griscom St. |
| A.B. (Pennsylvania, 1914). Instructor in English, Central High School, Philadelphia, 1914. English; third year. | | |
| McQuiston, Mary Ethel | Philadelphia | 3303 Arch St. |
| A.B., A.M. (Monmouth College, 1912; Pennsylvania, 1916). Holder of Half University Scholarship in English, 1914-1916; Teacher, Drexel Institute, 1914-1915. English; third year. | | |

- | Name. | Residence. | City Address. |
|---|-------------------------|--------------------------------|
| Macfadyen, Anna S. | Philadelphia | 852 N. 24th St. |
| B.S. (Temple, 1916). Teacher in the Philadelphia Schools. Sociology; second year. | | |
| Mason, John Edward, Jr. | Philadelphia | 251 S. 44th St. |
| A.B., A.M. (Pennsylvania, 1913, 1914). Harrison Scholar in English, 1913-1914; Harrison Fellow, 1914-1915; University Scholar, 1915-1916. Absent on leave. | | |
| Maurer, Charles Lewis | Camden, N. J. | [1242 Princess Ave.] |
| A.B., A.M. (Ursinus, 1912; Pennsylvania, 1913). Vice Head Master, Instructor in History, Conway Hall, Carlisle, Pa., 1913-1915. Department of History, Camden High School, 1915. Economics; fourth year. | | |
| Maxwell, John Gordon | Merchantville,
N. J. | [12 E. Cedar Ave.] |
| B.S. (Haverford, 1916). Chemistry; first year. | | |
| Mayberry, Sarah Rhoads | Pottstown | [474 N. Evans St.] |
| A.B. (Ursinus, 1915). Latin; first year. | | |
| Mayer, Eli | Philadelphia | 900 N. 15th St. |
| A.B. (University of Cincinnati, 1901). Bachelor of Hebrew Literature, Hebrew Union College, Cincinnati, 1898. Psychology, Sociology; third year. | | |
| Mearns, Mary Florence | Seattle, Wash. | 3343 Ludlow St. |
| A.B. (Geneva College, 1909). Semitics; first year. | | |
| Meigs, Dorothy Eleanor | Philadelphia | 254 Farragut Terrace |
| A.B. (Vassar, 1914). Sociology; first year. | | |
| Melchoir, David Montfort | Lansdowne | Girard College |
| A.B., A.M. (Gettysburg, 1902, 1904). Instructor, Girard College, 1913 to date. History; fourth year. | | |
| Melvin, Emma | Knoxville, Tenn. | 6063 Drexel Road,
Overbrook |
| A.B. (University of Tennessee, 1900). Teacher of Latin, College for Women, Columbia, S. C., 1902-1909; Rowland Hall, Salt Lake City, 1913-1914. English; second year. | | |
| Mercer, Henry Noble | Lancashire, Eng. | 3423 Walnut St. |
| B.S., A.M. (University of London, 1912; University of Toronto, 1915). Assistant in Physics, University of Toronto, 1914-1915. Instructor in Physics, University of Pennsylvania, 1915. Physics, Mathematics; second year. | | |

Name.	Residence.	City Address.
Messner, Henry Lee	Roaring Branch	[316 Chestnut St., Moorestown, N. J.]
A.B. (Swarthmore, 1913). Principal, Friends' High School, Moorestown, N. J., 1916. Education; first year.		
Meyer, Helen	Yonkers, N. Y.	1234 Spruce St.
B.S. (Columbia, 1913). Psychology; first year.		
Miles, Mary Elizabeth	Germantown	5148 Wayne Ave.
A.B. (Pennsylvania, 1914). English; first year.		
Miller, Beatrice	Philadelphia	5424 Walnut St.
A.B. (Bryn Mawr, 1913). Teacher of Science, West Philadelphia High School, 1913 to date. Sociology; first year.		
Miller, Ida L. Knauss	Philadelphia	4544 N. Broad St.
A.B., A.M. (Temple, 1907; Pennsylvania, 1909). Holder of Half University Scholarship in Classics, 1907-1908; Moore Fellow, 1908-1909; Bennett Fellow, 1909-1910. Latin; tenth year.		
Miller, Karl Greenwood	Philadelphia	1314 Spring Garden St.
A.B. (Pennsylvania, 1915). Assistant in Psychology, 1915. Psychology; second year.		
Minnick, John Harrison	Lafontaine, Ind.	811 N. 40th St.
A.B., A.M. (Indiana, 1906, 1908). Graduate work, Illinois, 1908-1909. Principal of Normal (Illinois) High School, 1907-1908; Assistant in Mathematics, University of Illinois, 1908-1909, 1910-1911. Critic in Mathematics, Training School of Indiana University, 1911-1913. Instructor in Mathematics, Horace Mann School, 1913-1915. Harrison Fellow, in Mathematics, 1909-1910; Education, 1915-1916. Education; third year.		
Mitchell, Jacob G. Neafie	Williamsport	2102 N. Broad St.
A.B. (Trinity, 1916). English; first year.		
Mitchell, Pearl Boring	Philadelphia	5030 Walnut St.
A.B. (Bryn Mawr, 1912). Teacher of History, West Philadelphia High School for Girls, 1915. History, Sociology; second year.		
Modell, Jean Daniel	Logan	[1217 Lindley Ave.]
A.B., A.M. (Cornell, 1912, 1913). Psychology; first year.		
Montanye, Edwin Yerkes	Holmesburg	[Crispin St.]
B.S. (Pennsylvania, 1915). Principal of the James G. Blaine School, Philadelphia. Sociology; second year.		
Moon, Sally Dabney	Charlottesville, Va.	Torresdale, Pa.
A.B. (Hollins College, 1915). Teacher in High School Department, Torresdale House School, 1915. Education, Sociology; second year.		

- | Name. | Residence. | City Address. |
|---|----------------|------------------------------------|
| Moriarity, Mary Lillian | Yonkers, N. Y. | 904 Spruce St. |
| B.S., A.M. (New York Teachers' College, 1909; Columbia, 1913). Teacher in South Philadelphia High School for Girls. English; first year. | | |
| Morin, Edith E. | Fulton, N. Y. | 4816 Windsor Ave. |
| A.B. (Syracuse, 1907). Teacher, West Philadelphia High School for Girls, 1915 to date. Fine Arts; first year. | | |
| Mountjoy, Harry | Boyertown | |
| A.B., A.M. (Dickinson, 1915, 1916). English; first year. | | |
| Moyer, Amos Benjamin | Downingtown | |
| A.B. (Lebanon Valley, 1909). Supervising Principal, Downingtown Public Schools, 1915 to date. Education; first year. | | |
| Mudgett, Mildred Dennett | Philadelphia | Llamar Apts., 64th and Walnut Sts. |
| A.B. (Mount Holyoke, 1909). Economics; first year. | | |
| Munroe, Margaret Adelaide | Philadelphia | 5732 Thomas Ave. |
| A.B. (Bryn Mawr, 1913). Friends' Central School, 1913 to date. English; first year. | | |
| Murphy, Edith Hamilton | Philadelphia | 4211 Sansom St. |
| A.B. (Bryn Mawr, 1910). Teacher in Miss Robin's School, Mt. Airy, 1911-1912. Teacher of Latin in Friends' Central School, Philadelphia, 1912 to date. English; second year. | | |
| Musgrave, John Knox | Pittsburgh | 119 S. 37th St. |
| B.S. (Pennsylvania State, 1909). Medical Science; first year. | | |
| Musser, Paul Howard | Philadelphia | 804 Wynnewood Road |
| A.B. (Pennsylvania, 1916). Assistant in English, 1916. English; first year. | | |
| Myers, Abraham Linford | Germantown | [34 W. Pomona St.] |
| A.B., A.M. (Lafayette, 1902; Pennsylvania, 1906). Latin; ninth year. | | |
| Nash, William Percival | Narberth | [136 Merion Ave.] |
| A.B. (Colorado, 1901). Education; first year. | | |
| Nathan, Marvin | Philadelphia | 2213 N. Natrona St. |
| A.B. (Cornell, 1900). Student at Cornell, 1901-1903; Jewish Theological Seminary, 1900-1905. Semitics; seventh year. | | |
| Nearing, Guy | Troy | |
| B.S. (Pennsylvania, 1907). English; first year. | | |

- | Name. | Residence. | City Address. |
|--|--------------------------------------|---|
| Neilson, Harry Rosengarten
B.S. (Pennsylvania, 1916). | St. Davids
Chemistry; first year. | 363 $\frac{1}{2}$ Locust St. |
| Newman, John Franklin
A.B., A. M. (Gettysburg, 1902, 1908). Instructor in the Department of Sciences, Cumberland Valley State Normal School; Shippensburg, 1905-1909. Instructor and Dean in Physics and Geology, State Normal School, West Chester, 1909 to date. Geology; sixth year. | West Chester | [628 Walnut St.] |
| Oesterle, Eric Adam
B.Ph. (Bucknell, 1916). Sociology; first year. | Woodstown,
N. J. | [Crozer Theological
Seminary, Chester] |
| Opp, Helen Schuyler
A.B. (Goucher, 1909). Teacher, Kingston, Pa., High School, 1910-1912; Lewistown High School, 1912-1913. Teacher of Mathematics, West Philadelphia High School for Girls, 1913 to date. Fine Arts; second year. | Plymouth | 917 S. 49th St. |
| Osmond, Charles Hodgson
B.S. (Temple, 1914). Teacher in Abington Friends' School, 1914 to date. Mathematics; first year. | Philadelphia | 3512 N. 16th St. |
| Owens, Alice Gertrude
A.B. (Goucher, 1914). English; first year. | Camden, N. J. | [332 Penn St.] |
| Palmer, Charles Warner
A.B., M.S. (Cornell, 1907; University of Pennsylvania, 1914). Teacher of Science, Westtown School, 1906 to date. Education; third year. | Westtown,
Chester Co., Pa. | |
| Palmer, Harry A.
A.B. (Temple, 1916). Teacher in Philadelphia Public Schools, 1910 to date. History; first year. | Philadelphia | 738 Wynnewood Road |
| Pan, Hsieh An
A.B., B.S. (St. John's College, China, 1912; Pennsylvania, 1916). Economics; first year. | Shanghai,
China | 3614 Chestnut St. |
| Parker, Sarah Warfield
A.B., A.M. (Wellesley, 1913; Pennsylvania, 1917). Psychology, Sociology; fourth year. | Bath, N. Y. | [307 Gayley Terrace,
Media, Pa.] |
| Parmenter, Charles Leroy
A.B., A.M. (University of Southern California, 1910, 1912). Student, University of Wisconsin, 1912-1915. Assistant in Zoölogy, Pennsylvania, 1916. Zoölogy, Botany; first year. | Los Angeles, Cal. | Zoölogical Laboratory |

- | Name. | Residence. | City Address. |
|--|-------------------|------------------------------|
| Pastoret, Anna Iola | Philadelphia | 1718 Wolf St. |
| A.B. (New York City Normal College, 1913). Sociology; third year. | | |
| Patterson, Samuel Howard | Philadelphia | 2239 N. 16th St. |
| B.S., A.M. (Pennsylvania, 1914, 1916). Teacher, West Philadelphia High School, 1914 to date. Education; third year. | | |
| Peacock, Mary Craig | Torresdale | |
| B.S. (Pennsylvania, 1912). Teacher, Normal School, Philadelphia. Sociology, English; third year. | | |
| Peck, Beatrice | Philadelphia | 5621 Angora Terrace |
| B.Ph. (Syracuse, 1909). Teacher, William Penn High School, 1912 to date. Sociology; first year. | | |
| Peebles, Cathrene H. | Washington, D. C. | [2037 Upland Way, Overbrook] |
| A.B. (Wellesley, 1912). Instructor in Miss Wright's School, Bryn Mawr, 1912 to date. English; first year. | | |
| Perring, Louise Franklin | Philadelphia | 5426 Angora Terrace |
| B.S., A.M. (Temple, 1909; Pennsylvania, 1912). Held Half University Scholarship in History, 1911-1912. Teacher, Philadelphia Public Schools, 1897 to 1908; Supervising Principal, 1908 to date. Absent on leave. | | |
| Phillips, Arthur | Beverly, N. J. | |
| A.B., A.M. (Lafayette, 1900; Pennsylvania, 1914). Absent on leave. Thesis work. | | |
| Phillips, Gabriel Altamont | Hammonton, N. J. | |
| A.B. (Princeton, 1915). Teacher, Frankford High School. English; first year. | | |
| Phillips, Norman E. | Painesville, O. | |
| B.S. (Allegheny, 1915). Assistant in Zoölogy. Zoölogy; first year. | | |
| Pierce, Irene | Wilmington, Del. | [Box 212, Auto Route A] |
| A.B. (Wilson College, 1911). Teacher, Wilmington High School, 1913 to date. German; first year. | | |
| Piersol, Margaret Wessell | Philadelphia | 4724 Chester Ave. |
| A.B., A.M. (Vassar, 1912; Pennsylvania, 1914). Teacher of History and German, Mary Lyon School, Swarthmore, 1914 to date. History, Political Science; fourth year. | | |

Name.	Residence.	City Address.
Prentice, Leigh Wells	Philadelphia	2419 N. Garnet St.
A.B. (Temple, 1912). Teacher in Philadelphia Public Schools, 1910-1916; Instructor in History, Germantown Boys' High School, 1916. History, Political Science; second year.		
Primm, Ellis Carl	Blackstone, Va.	[Crozer Theological Seminary, Chester]
A.B. (Richmond College, 1913). Sociology, Philosophy, History of Religions; second year.		
Prince, Marion	Philadelphia	3322 N. 15th St.
A.B. (Pennsylvania, 1913). Instructor in English, William Penn High School for Girls, 1913 to date. English, Sociology; third year.		
Prouse, Howard Hopkins	Philadelphia	4822 Sansom St.
A.B. (Delaware College, 1909). Teacher, Brown Preparatory School, 1912 to date. English; first year.		
Ramsaur, William Hoke	China Grove, N. C.	5000 Woodland Ave.
A.B. (University of North Carolina, 1910). Semitics; second year.		
Rees, Arthur Dougherty	Riverton, N. J.	
B.S., A.M. (Pennsylvania, 1901, 1902). Harrison Scholar in Economics, 1901-1902; University Scholar, 1904-1905. Instructor in Wharton School, 1915. Economics; fourth year.		
Reeves, William Harvey	New Brunswick, N. J.	Dorm. 338 Foerderer
A.B. (Pennsylvania, 1916). Assistant in Economics, 1916. Economics, Sociology; first year.		
Reisse, George Berge	Germantown	5366 Wingohocking Ter.
B.S. (Temple, 1908). Teacher and Supervising Principal, Philadelphia Public Schools, 1900 to date. Psychology, Education; third year.		
Reitell, Charles Ervin	Philadelphia	4928 Warrington Ave.
B.S., A.M. (Pennsylvania, 1910, 1916). Bursar, Elmira College, 1911-1914. Instructor in Economics, Pennsylvania, 1914. Economics; third year.		
Reitell, Jane Myer	Philadelphia	4928 Warrington Ave.
A.B., A.M. (Elmira, 1914; Pennsylvania, 1915). History, English; second year.		
Richards, Matthias Henry	Philadelphia	1940 N. 6th St.
A.B. (Muhlenberg, 1913). Instructor, Allentown Preparatory School, 1913 to date. History; third year.		

Name.	Residence.	City Address.
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Rieger, George Washington, Jr.	Philadelphia	1855 N. Marvine St.
B.S., A.M. (Temple, 1909; Pennsylvania, 1914). Teacher and Supervising Principal, Potter School, Philadelphia, 1902-1915; Northeast Grammar School, 1915 to date. Sociology; sixth year.		

Riley, Garnett Martin	Bridgeport, W. Va.	[Crozer Theological Seminary, Chester]
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A.B. (Denison University, 1914). Sociology; third year.

Ripple, Clarence Vincent	Philadelphia	1329 Dickinson St.
B.S. (Pennsylvania, 1914). Instructor, South Philadelphia High School for Boys, 1915 to date. Zoölogy; first year.		

Ristine, Miriam Vaughan	Bryn Mawr	
A.B. (Bryn Mawr, 1908). Teacher, Lower Merion High School, 1914 to date. Education; first year.		

Ritter, John Beatty	Collingswood, N. J.	[19 W. Madison Ave.]
A.B. (Pennsylvania College, Gettysburg, 1910). Teacher of German, Greek and Latin, Conference Academy, Dover, Del., 1910-1914; Latin and Greek, Manual Training School, Camden, N. J., 1914 to date. Education; second year.		

Roberts, Mary Elma	Newark, Del.	[38 E. Main St., Moorestown, N. J.]
Ph.B., A.M. (Dickinson, 1912, 1914). Teacher, Moorestown High School, 1916. English; first year.		

Robinson, Raymond Alexander	Philadelphia	4604 Kingsessing Ave.
A.B. (Pennsylvania, 1916). English; first year.		

Rodes, Lester Alfred	Moorestown, N. J.	[259 W. Main St.]
A.B. (Lebanon Valley College, 1914). Professor of History and Mathematics, Moorestown High School, 1914 to date. Education, Sociology; third year.		

Rodman, Jessie Abigail	Germantown	[81 High St.]
B.S. (Pennsylvania, 1912). Teacher, Germantown High School, 1916. Physics; first year.		

Root, Mary Longaker	Philadelphia	631 E. Leverington Ave.
A.B. (Bryn Mawr, 1910). Teacher, William Penn High School, 1912 to date. Mathematics; first year.		

Rosa, Anthony	Philadelphia	835 Catharine St.
B.S. (Pennsylvania, 1916). Romanics; first year.		

Name.	Residence.	City Address.
Rosenbaum, Etta Herzig	Bronx, N. Y.	2052 Catharine St.
A.B. (College of City of New York, 1916). Instructor, South Philadelphia High School, 1916. English; first year.		
Rosenberger, Noah Bryan	Coatesville	4313 N. Carlisle St.
A.B. (Pennsylvania State, 1913). Head of Department of Mathematics, Coatesville High School, 1913 to date. Mathematics; second year.		
Rosenberger, Seward M.	Philadelphia	4915 Knox St.
A.B. (Temple, 1911). Absent on leave.		
Rosenthal, Emil	Baltimore, Md.	Dorm. 108 Leidy
A.B. (Johns Hopkins, 1916). Economics; first year.		
Ross, Carmon	Doylestown	
Ph.B., A.M. (Lafayette College, 1905; Pennsylvania, 1916). Superintending Principal of Schools, Doylestown, Pa. Education; fourth year.		
Rowland, Sydney V.	Fox Chase	
B.S. (Temple, 1914). Teacher in School of Pedagogy Practice School, 1914 to date. History; second year.		
Rowland, Theodore Sherwood	Philadelphia	6311 N. Camac St.
A.B. (Cornell, 1908). Holder of Half University Scholarship in Physics, 1915-1916; Teacher in Northeast Boys' High School, 1913 to date. Physics; third year.		
Rowlands, Agnes Grant	Brooklyn, N. Y.	[St. Mary's Hall, Burlington, N. J.]
A.B. (Vassar, 1913). Education; first year.		
Russell, Alice Mary	Tacony	3422 Disston St.
B.S. (Pennsylvania, 1915). Botany; second year.		
Ryan, Marie	Philadelphia	1534 N. 19th St.
A.B. (Trinity College, 1915). History, Economics; second year.		
Ryder, Winifred Mary	Andover, Mass.	127 S. 36th St.
Ph.B. (Oberlin, 1897). Teacher in Stivers High School, Dayton, O., 1906-1917. English, Sociology; first year.		
Saeger, Armin Louis		
B.S., A.B., A.M. (University of Missouri, February, 1913; June, 1913, June, 1915). Instructor in German, University of Missouri, 1913-1915; Harrison Fellow in Germanics, 1915-1916. German, English; second year.		
Salom, Emma	Philadelphia	4702 Chester Ave.
A.B. (Wellesley, 1916). English, History, Economics, Sociology; first year.		

Name.	Residence.	City Address.
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| Savage, Henry Lyttleton | Chestnut Hill | |
| A.B. (Princeton, 1915). Assistant in English, University of Pennsylvania, 1916. English; second year. | | |
| Schell, Irwin Osenbach, Rev. | Quakertown | [417 Juniper St.] |
| A.B. (Muhlenberg College, 1901). Student, Eastern Theological Seminary, Lancaster, 1901-1904. Education; third year. | | |
| Schlow, Charles | Philadelphia | 3222 Ridge Ave. |
| B.S. (Pennsylvania, 1912). Instructor in Philadelphia Trades School. Anthropology, Sociology; first year. | | |
| Schmitt, Bertram Clarence | Philadelphia | 5113 Germantown Ave. |
| B.S. (Pennsylvania, 1913). Instructor in English, Pennsylvania, 1913 to date. History; fourth year. | | |
| Scholz, Karl William Henry | Terryville, Conn. | Dorm. 26 Morgan |
| B.S., A.M. (Pennsylvania, 1911, 1915). Head of German Department, Bethlehem Preparatory School, 1912-1914. Instructor in German, University of Pennsylvania, 1914 to date. Germanics, English Literature; third year. | | |
| Schreiber, Philip Raymond | York | 4019 Powelton Ave. |
| B.S. (Franklin and Marshall, 1915). Instructor in Chemistry, Drexel Institute, 1915 to date. Chemistry; first year. | | |
| Schuyler, Mary Eloise | Clinton, N. Y. | 1002 S. 45th St. |
| A.B., A.M. (Mt. Holyoke, 1899; Pennsylvania, 1915). Teacher, Cape May High School, 1906-1914. University Scholar in History, 1914-1915. History; third year. | | |
| Scott, Ira Dwight | Baltimore, Md. | [Moorestown, N. J.] |
| A.B., A.M. (Western Maryland College, 1906; Pennsylvania, 1913). Teacher, Moorestown High School, 1913 to date. Education; seventh year. | | |
| Seidel, Charles F. | Allentown | [247 N. 9th St.] |
| A.B. (Muhlenberg College, 1914). Sociology, Education; third year. | | |
| Selmsr, Gail Hoster | Waterloo, N. Y. | 823 S. 49th St. |
| A.B. (Syracuse University, 1906). Teacher of History and Latin, New Berlin, N. Y., High School, 1906-1908; Rome, N. Y., Free Academy, 1908-1911; Amsterdam, N. Y., High School, 1911-1915; William Penn High School, Philadelphia, 1915. History, Sociology; second year. | | |
| Sener, Anna | Lancaster | [233 Charlotte St.] |
| A.B. (Wellesley, 1911). History; first year. | | |
| Sensenig, Wayne | W. Conshohocken | [228 Crawford Ave.] |
| A.B. (Haverford, 1901). Teacher of Mathematics, U. S. Naval Academy Preparatory School, 1902-1907; Assistant Instructor, State College, 1911-1912; Instructor in Mathematics, Philadelphia High School, 1912-1914. Holder of Half University Scholarship in Mathematics, 1914-1915. Mathematics; fifth year. | | |

- | Name. | Residence. | City Address. |
|---|---------------|-----------------------|
| Sexsmith, Luella | Scio, N. Y. | 42 S. 44th St. |
| Ph.B. (Syracuse, 1903). Teacher, South Philadelphia High School for Girls, 1916. Sociology, History; first year. | | |
| Shanaman, Samuel Logan | Ardmore | [130 Elm Ave.] |
| B.S. (Pennsylvania, 1912). Teacher of Science, Lower Merion High School, 1912-1915. Botany; second year. | | |
| Shoemaker, Harry Melvin | Philadelphia | 1906 N. 13th St. |
| Ph.B., A.M. (Dickinson, 1902, 1903). Instructor, Northeast High School, Philadelphia, 1909 to date. Thesis work; seventh year. | | |
| Shollenberger, Helen Olga | Philadelphia | 5822 Springfield Ave. |
| A.B. (Cornell, 1911). Student, Graduate School, Cornell, 1911. Teacher in William Penn High School, Philadelphia, 1915. Sociology; third year. | | |
| Shortess, Samuel Irvine | Jenkintown | |
| A.B. (Albright, 1911). Principal, Jenkintown High School, 1916. Education; first year. | | |
| Sittig, Chester Arthur | Philadelphia | 5608 Baltimore Ave. |
| A.B., A.M. (Hamilton College, 1906, 1909). Instructor in Latin and German, Friends' Central School, 1909-1911. Head of German Department, 1911-1912. Instructor in Latin and German, Frankford Annex of Central High School, 1913-1916; Assistant Professor, 1916. Germanics; third year. | | |
| Sladen, Charles Fischer | Philadelphia | 2240 S. 23d St. |
| B.S., A.M. (University of Pennsylvania, 1901, 1902). Instructor in Mathematics, Bryn Athyn Academy, 1903-1905; Latin and French, Germantown Academy, 1907-1909; Brown Preparatory, 1909-1912; Southern High School, 1912 to date. Germanics, Romanics; ninth year. | | |
| Smart, Katherine Ignatius | Philadelphia | 815 N. 21st St. |
| A.B., A.M. (Temple, 1912; Pennsylvania, 1915). Latin, Greek; sixth year. | | |
| Smith, George Morris | New York City | 7301 Germantown Ave. |
| A.B., A.M. (Roanoke, 1911; Princeton, 1912). Student, Lutheran Seminary, Mt. Airy. English; first year. | | |
| Smith, Walter Everett | Korea, Japan | 629 S. 49th St. |
| A.B., A.M., B.D. (Princeton, 1895, 1897; Princeton Theological Seminary, 1899). Teacher in the Union Christian College, Korea, 1912-1916. Psychology, Philosophy, History; first year. | | |
| Sondberg, Dowett | Philadelphia | 4130 Leidy Ave. |
| B.S. (University of Pennsylvania, 1916). Education; second year. | | |

- | Name. | Residence. | City Address. |
|--|------------------------|---|
| Speicher, Earl Edmon | Somerset | [Crozer Theological
Seminary, Chester] |
| A.B. (Juniata College, 1914). Principal of the Coalport Schools, 1914-1915.
Sociology; second year. | | |
| Spiller, Helen Newbold | Philadelphia | 4409 Pine St. |
| A.B. (Swarthmore, 1916). History, Economics; first year. | | |
| Sprecher, John Henry | Lebanon | Girard College |
| A.B. (Lebanon Valley, 1914). Principal, Parkesburg Public Schools, 1911
to date. History, Political Science; second year. | | |
| Stamp, Harley | Alliance, O. | 3618 Chestnut St. |
| A.B., A.M., M.S. (Mt. Union College, 1896, 1903; Pennsylvania, 1913).
Student in Sociology and History, Hannover Politechnicum, 1900-1901.
Research Student in Physiology, Oxford, 1908; Cambridge, 1908. Pasteur
Institute, Bacteriologist, 1909. University of Berlin, 1910. Harvard
Graduate School of Medicine, 1911-1913. Field work, 1913-1914. Anthropol-
ogy; fifth year. | | |
| Starkey, Foster Henry | West Chester | [State Normal School] |
| A.B., A.B., A.M., A.M. (Bucknell, 1891; Harvard, 1892; Bucknell, 1894; Penn-
sylvania, 1915). Held Half University Scholarship in Latin, 1911-1912.
Head of Latin Department, State Normal School, West Chester. Educa-
tion; ninth year. | | |
| Steele, Esther Clarkson Mayer | Bryn Mawr | [The Baldwin School] |
| Ph.B. (Chicago, 1916). Teacher in The Baldwin School, 1905-1916. History;
first year. | | |
| Steltz, Titus J. | West Consho-
hocken | |
| A.B. (Temple, 1916). Education; first year. | | |
| Stemen, Helen | Ripon, Wis. | [101 E. Greenwood Ave.,
Lansdowne] |
| A.B. (Oberlin, 1915). Instructor, Northeast High School for Girls, 1916.
Sociology; first year. | | |
| Sterner, Lewis George | Philadelphia | 724 W. Lehigh Ave. |
| B.S. (Pennsylvania, 1915). English; first year. | | |
| Stetler, Isaac Edelman | Philadelphia | 224 S. 45th St. |
| A.B. (Temple, 1911). Supervising Principal, S. B. Huey School, Philadel-
phia, 1913 to date. Education, Economics; fifth year. | | |
| Stevens, R. Foster | West Chester | [306 Dean St.] |
| A.B. (Bates College, 1908). Assistant in Chemistry, Bates College, 1908-
1909. Head of Science Department, Dean Academy, Franklin, Mass.,
1909-1913; West Chester High School, 1913 to date. Education; second
year. | | |

Name.	Residence.	City Address.
Stewart, Alonzo Hamilton	Philadelphia	252 N. 12th St.
M.D., D.P.H., A.B. (Jefferson Medical, 1892; Pennsylvania, 1913, 1916). Instructor in Bacteriology, 1914 to date. Sociology, Philosophy; first year.		
Stitler, Chester A.	Uwchland	Dorm. 21 Graduate
B.S. (Pennsylvania, 1915). Principal of the High School, Jenkintown. Botany, Zoölogy; first year.		
Stubbs, Margaret Elizabeth	West Chester	
A.B. (Mount Holyoke, 1915). Psychology; first year.		
Swadener, Julia Louise	West Chester	
A.B., A.M. (Goucher, 1905, 1907). Teacher, West Chester High School, 1915 to date. English; first year.		
Swineheart, George Brunst	Boyertown	[Box 152]
A.B. (Ursinus, 1915). Education; first year.		
Swope, Earl Segrest	Philadelphia	903 W. Huntingdon St.
B.S. (Pennsylvania, 1913). Mathematics; third year.		
Tator, Samuel Wesley	Philadelphia	224 S. 53d St.
B.S. (Pennsylvania, 1913). Instructor in Economics. Economics; first year.		
Taylor, Anne	West Chester	[302 Gowen Ave., Mt. Airy]
B.A. (Smith, 1915). Education; first year.		
Taylor, Edith Belcher	Asbury Park, N. J.	[West Chester]
A.B. (Swarthmore, 1909). Teacher, West Chester High School, 1912 to date. English; second year.		
Taylor, Paul Vivian	Reading	[Schuylkill Seminary]
A.B. (Muhlenberg, 1914). Education; first year.		
Taylor, Richard E.	Woodbury, N. J.	
A.B. (Union, 1916). Teacher in Woodbury, N. J., High School, 1916. History; first year.		
Taylor, William Randolph	Philadelphia	1340 N. 12th St.
B.S. (Pennsylvania, 1916). Assistant in Botany, 1915 to date. Botany, Zoölogy; first year.		

- | Name. | Residence. | City Address. |
|---|-----------------------|----------------------|
| Thomas, Isabelle | Springfield, O. | [Haddonfield, N. J.] |
| A.B. (Earlham, 1913). Principal Haddonfield Friends' School, 1913 to date.
Psychology; first year. | | |
| Thomas, Stanley Judson | Philadelphia | 5120 Regent St. |
| B.S., M.S., A.M. (Lafayette, 1912; Lehigh, 1913, 1915). Instructor, Lehigh University, 1912 to date. Zoölogy; first year. | | |
| Thompson, Edmund Anderson | Philadelphia | 1412 N. 55th St. |
| B.S. (Temple, 1916). Teacher, Philadelphia Public Schools, 1906 to date.
Sociology; first year. | | |
| Thompson, Marjorie La Monte | Philadelphia | 210 S. 42d St. |
| A.B. (Bryn Mawr, 1912). English, History; first year. | | |
| Thorington, James Monroe | Philadelphia | 2031 Chestnut St. |
| B.S. (Princeton, 1915). Medical Sciences; first year. | | |
| Tice, William Griffith | Trenton, N. J. | [60 Oak Lane] |
| B.S. (Brooklyn Polytechnic Institute, 1911). Chemistry; first year. | | |
| Tilton, Charles Eugene | South Amboy,
N. J. | |
| Ph.B. (Bucknell, 1916). Sociology; first year. | | |
| Tilton, John Warren | Absecon, N. J. | [E. Bolton Ave.] |
| B.S. (Pennsylvania, 1914). Psychology; second year. | | |
| Tomkinson, Samuel | Philadelphia | 2230 Estaugh St. |
| B.S. (Temple, 1908). Teacher, Philadelphia Public Schools, 1902 to date.
Sociology, Psychology; sixth year. | | |
| Tremain, Eloise Ruthren | Philadelphia | 139 W. Gorgas St. |
| A.B. (Bryn Mawr, 1904). Instructor in History, Philadelphia High School for Girls, 1900 to date. Sociology; fifth year. | | |
| Tugwell, Rexford Guy | Philadelphia | 4930 Warrington Ave. |
| B.S. (Pennsylvania, 1915). Instructor in Wharton School, University of Pennsylvania, 1915. Economics, English; second year. | | |
| Tyson, George Russell | Philadelphia | 2211 N. 22d St. |
| B.S. (Pennsylvania, 1916). Education, Sociology; first year. | | |

- | Name. | Residence. | City Address. |
|---|---|--|
| Umsted, Joseph Russell
A.B. (Pennsylvania, 1916). | Quakertown
Education; first year. | |
| Vanderslice, Harvey R.
A.B. (Ursinus, 1915). | Boyertown
Education, Sociology; third year. | |
| Van Hook, Carlton Radcliffe
Ph.B., A.M. (Dickinson, 1912, 1913). | Glassboro, N. J.
Sociology; first year. | [335 Main St.] |
| Van Slyke, Berenice Katherine
A.B. (Wellesley, 1913). | Narberth
English; first year. | [Mill Road] |
| Vernon, Ethel
A.B. (Cornell, 1913). | Wilmington, Del.
Political Science; first year. | [Hillcrest] |
| Voorhees, J. Dayton
Litt.B., A.M., A.M. (Princeton, 1905; University of Pennsylvania, 1913; Princeton, 1914). | Bryn Mawr
Political Science, Economics; second year. | |
| Wade, Francis Aloysius
A.B. (Pennsylvania, 1913). | Philadelphia
Education, Sociology; second year. | 1514 Westmoreland St. |
| Waldron, Ralph Augustus
B.S., M.S. (Massachusetts Agricultural College, 1910; Pennsylvania State College, 1912). | Cynwyd
Instructor in Botany, Pennsylvania State College, 1910-1915. Botany; second year. | [418 Bryn Mawr Ave.] |
| Wallace, Brenton Greene
B.S. (Pennsylvania, 1913). | Philadelphia
Instructor, Harrisburg Academy, 1913-1914. Fine Arts; first year. | 4244 Chestnut St. |
| Walton, George Arthur
A.B., A.M. (University of Pennsylvania, 1904, 1907). | George School,
Pa.
Instructor in English, University of Pennsylvania, 1907-1908; George School, 1908-1912; Principal of the George School, 1912 to date. Education; ninth year. | |
| Walton, Joseph Barnard
A.B., A.M. (Pennsylvania, 1905; Columbia, 1908). | Swarthmore
Economics; second year. | 140 N. 15th St. |
| Wanger, Ruth
A.B. (Vassar, 1912). | Norristown
English, Sociology, History; first year. | So. Philadelphia High School for Girls |

- | Name. | Residence. | City Address. |
|--|------------------------|--|
| Warrington, William Edward | Wissahickon | [316 Rochelle Ave.] |
| B.S., A.M. (Pennsylvania, 1915, 1916). Harrison Scholar in Economics, 1915-1916; Assistant in Economics, 1916. Economics; second year. | | |
| Watson, Amey E. | Haverford | [5 College Ave.] |
| A.B., A.M. (Woman's College, 1907; Pennsylvania, 1910). Psychology; third year. | | |
| Weadley, Eliza Babb | Strafford | |
| B.S. (Pennsylvania, 1913). Physiology; second year. | | |
| Weatherly, Ralph Armfield | Kernersville,
N. C. | 5000 Woodland Ave. |
| A.B. (Lehigh University, 1915). English, Sociology; second year. | | |
| Webb, Bertha Kent | Lansdowne | |
| A.B. (Swarthmore, 1915). Instructor in Latin, Darby High School, 1915 to date. Latin; first year. | | |
| Wei, Lott Hsien Tsang | Hankow, China | 302 Essex Apts., 34th
and Chestnut Sts. |
| A.B. (St. John's College, China, 1913). Student in Philadelphia Textile School, 1913-1916. Economics; first year. | | |
| Weiss, Charles | New York City | 3717 Spruce St. |
| B.S., M.S. (College of City of New York, 1915; New York University, 1916). Political Science; first year. | | |
| Wendel, Hugo Christian Martin | Trenton, N. J. | Dorm. 30 Graduate |
| A.B. (Princeton, 1910). Student, Lutheran Theological Seminary, 1904-1907; Erlangen, 1907-1908; Leipzig, 1908; Harrison Fellow in History, 1915-1916; Assistant in History, 1916. History; fifth year. | | |
| Wendkos, Philip | Philadelphia | 1114 N. 41st St. |
| A.B., V.M.D. (University of Pennsylvania, 1916, 1912). Instructor in Zoology, University of Pennsylvania, 1915 to date. Zoölogy; second year. | | |
| Werner, Emil Carl | Philadelphia | 931 W. Dauphin St. |
| B.S. (Pennsylvania, 1915). Instructor, Germantown High School, 1915 to date. Economics; first year. | | |
| Wessels, C. Lourea | Philadelphia | 1718 Diamond St. |
| B.S. (University of Pennsylvania, 1915). Instructor in English, Drexel Institute, 1915 to date. English, Sociology; second year. | | |

- | Name. | Residence. | City Address. |
|---|------------------------|--|
| Wetherill, Francis Macomb | Philadelphia | 2300 Pine St. |
| A.B., A.M. (Pennsylvania, 1906, 1911). Student, General Theological Seminary, New York City, 1906-1909. Psychology; fourth year. | | |
| Whedon, Arthur DeWitt | West Chester | |
| A.B., M.S. (Iowa University, 1907, 1912). Department of Geography and Botany, West Chester State Normal School, 1915. Zoölogy; second year. | | |
| Whitehead, Helen | Lagrange, Ill. | 425 S. 15th St. |
| Ph.B., A.M. (Chicago, 1904; Pennsylvania, February, 1917). Economics, Sociology; second year. | | |
| Whiteley, Miriam Frances | Williamsburg | [Glassboro, N. J.] |
| A.B. (Dickinson, 1915). Latin; first year. | | |
| Wicklund, Harry Everett | Bingham Lake,
Minn. | Dorm. 15 Graduate |
| A.B. (St. Olaf, 1915). Economics, History; first year. | | |
| Wieder, John Williams | Abington | |
| A.B. (Franklin and Marshall, 1908). Principal of the Abington High School, 1911 to date. Germanics; second year. | | |
| Wilde, Lydia Mae | Amsterdam, N. Y. | Howard Hospital, Broad
and Catharine Sts. |
| A.B. (Cornell, 1908). Sociology; first year. | | |
| Wildes, Harry Emerson | Philadelphia | 3002 Lehigh Ave. |
| A.B. (Harvard, 1913). Instructor, South Philadelphia High School for Boys. English, History; first year. | | |
| Wilson, Marion Davis | New Centreville | |
| A.B. (Wilson, 1912). Teacher in Berwyn High School, 1915 to date. Germanics; first year. | | |
| Winestine, Norman Herman | Waterbury,
Conn. | 2121 N. 13th St. |
| A.B. (Yale, 1914). Student at Dropsie College, 1914. History; second year. | | |
| Wisherd, Besse Kaylor | Boonsboro, Md. | [Oaks] |
| A.B. (Juniata, 1913). Mathematics, Education; first year. | | |

- | Name. | Residence. | City Address. |
|--|----------------|--|
| Witham, Flora Horwood
B.S. (Pennsylvania, 1913).
cology; second year. | Philadelphia | 1229 N. 58th St.
Student, Columbia Summer School, 1914. So- |
| Woodward, Helen Marie
A.B. (Pennsylvania, 1916).
Germanics; first year. | Camden, N. J. | [211 Broadway]
Teacher in Camden High School, 1916. English, |
| Woolson, Frank Shull
B.S. (Pennsylvania, 1915).
1912 to date. Education; first year. | Camden, N. J. | [523 Linden St.]
Supervising Principal, Camden Public Schools, |
| Worthington, Edward H.
A.B., A.M. (Pennsylvania, 1913, 1914).
1914-1915; University of Pennsylvania, 1915. Mathematics; third
year. | Glenside | Instructor in Mathematics, State Col-
lege, 1914-1915; University of Pennsylvania, 1915. Mathematics; third |
| Wright, Harold James
A.B. (College of the City of New York, 1916). | New York City | 3810 Chestnut St.
English; first year. |
| Wright, Horace Wetherill
A.B. (Wisconsin, 1908).
1912-1913. Fellow, American School of Classics, Rome, Italy, 1913-1915.
Absent on leave. | Newark, N. J. | Scholar in Latin, Wisconsin, 1910-1911; Harrison
Scholar in Latin, Pennsylvania, 1911-1912; Harrison Fellow in Classics,
1912-1913. Fellow, American School of Classics, Rome, Italy, 1913-1915. |
| Wyatt, Henry Oswell
A.B. (Richmond, 1916). | Montague, Va. | [Crozer Theological
Seminary, Chester]
Sociology; first year. |
| Yeager, William Allison
A.B. (Ursinus College, 1914). | Pottstown | [466 N. Franklin St.]
Head of History Department, Pottstown High
School. History, Education; third year. |
| Yerkes, Royden Keith, Rev.
A.B., B.D., A.M., S.T.D. (Pennsylvania, 1903; Philadelphia Divinity School,
1906; Pennsylvania, 1911; Philadelphia Divinity School, 1912).
Department of Hebrew and Old Testament, 1909-1910, Nashotah House,
Nashotah, Wis. University Scholar in Semitics, 1910-1911. Instructor in
Hebrew, Pennsylvania, 1911 to date; also Instructor in History of Re-
ligions, Philadelphia Divinity School. Thesis work; seventh year. | Philadelphia | 3437 Woodland Ave. |
| Yost, Merrill Wagner
A.B. (Ursinus, 1915). | Trenton, N. J. | [246 Bellevue Ave.]
Latin; first year. |

Name.	Residence.	City Address.
Ziegler, Laura Palmer	Lansdowne	[101 E. Greenwood Ave.]
A.B. (Oberlin, 1915). Teacher, West Philadelphia High School for Girls, 1916. Sociology, English; first year.		

Ziegler, Samuel Horning	Philadelphia	5610 Larchwood Ave.
A.B., A.M. (Ursinus College, 1910, 1912). Head of Department of History, Reading Boys' High School, 1911-1914; Assistant Professor of History, West Philadelphia High School for Boys, 1914 to date. History, Education; third year.		

AUDITORS.

Ash, William Cook	Philadelphia	828 Wynnewood Ave.
Education.		
Bender, Isaac I.	do.	1622 N. 7th St.
Chemistry.		
Borkey, Andrew Verbin	Bowling Green, Va.	[Crozer Theological Seminary, Chester]
Sociology.		
Bradley, Marion R.	Philadelphia	Queen Lane Manor, Coulter and Fox Sts.
English.		
Burkard, William E.	do.	3202 W. Dauphin St.
Education.		
Chen, Ting Hsi	China	3645 Locust St.
Economics, Political Science.		
Chiera, George	Washington, D. C.	[Crozer Theological Seminary, Chester]
Sociology.		
Chu, Hsi Ching	China	3612 Chestnut St.
Economics.		
Coxon, Arthur Ernest	Melbourne, Australia	[Crozer Theological Seminary, Chester]
Sociology.		

Name.	Residence.	City Address.
Cramer, Wellington M., Jr. Economics.	Syracuse, N. Y.	3415 Walnut St.
Creagmile, William B. History, English, Political Science.	Norwood	[212 Cleveland Ave.]
Cressman, Elmer W. Political Science.	Philadelphia	2208 Delhi St.
Curry, Thomas J. A.B. (Morehouse, 1916).	Atlanta, Ga. History, Economics.	3414 Ludlow St.
D'Alessandro, Frank Romanics.	Philadelphia	1513 Morris St.
Dove, Fred Denton A.B. (Daleville College, 1916).	Cloverdale, Va. Sociology.	[Crozer Theological Seminary, Chester]
Dubin, Joseph W. Germanics, Romanics.	Philadelphia	3627 Locust St.
Eisenhart, Willis W. Education.	Abbottstown	3444 Chestnut St.
Fairbanks, Gertrude M. Sociology.	Vineland, N. J.	[Training School]
Frey, Leon B. Economics.	Hanover	3810 Chestnut St.
Gendell, Lucy Cooper Botany.	Philadelphia	6229 Jefferson St.
Grant, Jason C., Jr. A.B. (Virginia Union University, 1915).	Fredericksburg, Va. English.	4853 Chestnut St.
Gruenberg, Frederick P. Political Science.	Philadelphia	825 Wynnewood Road
Hallowell, Helen R. English.	Philadelphia	The Gladstone, 11th and Pine Sts.

Name.	Residence.	City Address.
Hathaway, Margaret V. English.	do.	515 W. Cheltenham Ave.
Heine, Henry C. A.B., A.M. (St. Joseph's College, 1908, 1913).	do.	2317 N. College Ave. Economics.
Hogstad, Anton, Jr. Botany.	do.	2651 Aramingo Ave.
Holme, Richard N. History, Education, Political Science.	do.	1720 Kinsey St.
Houlgate, Haydn Economics.	England	115 S. 34th St.
Hu, Chi-hsin Economics.	China	Dorm. 314 Leidy
Humbert, William K. A.B. (Daleville College, 1915).	Troutville, Va.	[Crozer Theological Seminary, Chester] Sociology.
Hutchings, Muriel B. Romanics.	Philadelphia	243 Queen Lane
Irwin, Everett Phelps Zoölogy.	Catskill, N. Y.	[Swarthmore]
Jordan, Janet G. Sociology.	Philadelphia	2428 Spruce St.
Kawada, Tiejiro Psychology.	Japan	3251 Sansom St.
Kean, Edgar C. English.	Camden, N. J.	
Learned, Mary R. German.	Philadelphia	4406 Pine St.
Leopold, Jeanette A. English.	do.	1632 N. Franklin St.

Name.	Residence.	City Address.
Lerner, Rose History.	New York City	120 S. 34th St.
Lindenmeyer, Gottlieb David A.B. (Mississippi, 1915). Sociology.	Gloster, Miss.	[Crozer Theological Seminary, Chester]
Lippert, Henry Germanics, English.	Delanco, N. J.	
McDaniel, Alice C. Fine Arts.	Philadelphia	264 S. 44th St.
McNally, William P. Education.	do.	29th and Dickinson Sts.
Mason, Isabel M. Psychology.	Cheyney	1933 Chestnut St.
Matlock, Ellen Leaming Fine Arts.	Woodbury, N. J.	1929 Chestnut St.
Morgan, William Joseph B.D. (Crozer Theological Seminary, 1912). Psychology.	Darby	[215 Main St.]
Myatt, Harold S. Sociology.	Philadelphia	3461 N. Water St.
Newbold, Ethel Packard Fine Arts.	do.	212 St. Mark's Sq.
Oda, Matsutaro Economics.	Japan	3617 Sansom St.
Reeve, Elizabeth Cooper Fine Arts.	Camden, N. J.	[301 State St.]
Rosenthal, Stella English.	Mt. Vernon, O.	1632 N. Franklin St.
Shannon, Spencer Sweet Anthropology.	Saxton	300 S. 36th St.

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UNIVERSITY OF ILLINOIS

200

GRADUATE SCHOOL

Name.	Residence.	City Address.
Stevens, Willis R. Economics.	Philadelphia	405 N. 63d St.
Tachika, Shinzazuro Political Science, Economics.	Japan	4120 Chester Ave.
Weber, Henry L. Fine Arts.	Philadelphia	The Bartram, 33d and Chestnut Sts.
Weber, Mrs. Henry L. Fine Arts.	do.	do.

ADDENDA.

REGULAR STUDENTS.

Adler, Carrie B.S., A.M. (Pennsylvania, 1912, 1913). Education; second year.	Philadelphia	3753 N. 15th St.
Thomas, Malcolm G. A.B., A.M. (Union College, 1898, 1901). University scholar in History, 1902-1903. Education; fifth year.	Woodbury, N. J.	

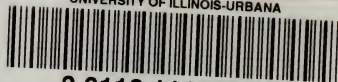
Corrections and additions to the above list should be reported to the office of the Dean.

SUMMARY.

Research Fellows	9
Regular Students	601
Auditors	55
Total*	665
Summer Session, 1916	103
Grand Total	768

* Of this number, four auditors are registered in the School of Education, eight in the Wharton School and one in each of the following departments: Law School and the College. In the College Courses for Teachers there are registered two regular students and two auditors.

UNIVERSITY OF ILLINOIS-URBANA



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